Alex Copland

THE

ACCOUCHEUR'S

Vade Mecum.

BY

JOSEPH HOPKINS,

SURGEON to His Royal Highness the DUKE OF KENT,

AND

MEMBER OF THE ROYAL COLLEGE.

FOURTH EDITION,

WITH ADDITIONS AND IMPROVEMENTS.

LONDON:

PUBLISHED BY THE AUTHOR;

AND

SOLD BY J. CALLOW, MEDICAL BOOKSELLER,

Crown Court, Princes Street, Soho.

Price Seven Shillings, Boards.

PRINTED, FOR THE AUTHOR, BY J. RAYER,

Harvey's Buildings, Strand.

1816.

TO

HIS ROYAL HIGHNESS

THE

DUKE OF KENT.

SIR,

PERMIT me again to implore the indulgence of your Royal Highness, and supplicate the continuance of that illustrious name to ornament my publication;—as the promoter of every laudable pursuit, the zealous encourager of literature, and the patron of industrious research, you are revered by all degrees of society who appreciate those virtues which irradiate the exalted rank of a Prince, and reflect honor on the character of a man. The numerous proofs of your disinterested goodness are too well known to require panegyric, and I am aware that, to

a generous mind, the self-approving conscience arising from the practice of universal benevolence, gives a more lasting satisfaction than any ephemeral eulogy I can bestow; allow me, then, in silence to admire those inestimable qualities for which your Royal Highness is distinguished, and, with profound veneration, to subscribe myself

The most obedient

and very humble Servant of

Your Royal Highness,

JOSEPH HOPKINS.

Queen's Square, Westminster,
August 1, 1816.

Preface.

It is a duty incumbent on the practitioner of every pursuit, to render it as subservient to the good of humanity as he is capable of, and to lose no opportunity of enlightening it with such rays as the test of experience proves to be beneficial. I am anxious to contribute a few observations on that important branch of our art—Midwifery. This Impression has many additional improvements:—Plates with an outline of such instruments as are occasionally employed;—Hints to the operative Accoucheur;—and a compendious medium of Instruction to the Student;—to which is added a correct Index.

INTRODUCTORY

OBSERVATIONS.

I.—In Midwifery, as in every other art, theory and practice should go hand in hand. If we attempt to explain the former without alluding to the latter, we impose upon our hearers by visionary speculation; and if we slight the first whilst we extol a proficiency in the last, we can be of little use to society as public teachers; of the two extremities, however, the former is most frequent; hence it is often found that students think themselves sufficiently instructed by a course or two of Midwifery lectures without ever having attended a single case in actual labor.

II.—The author, experiencing much inconvenience from a disappointment of practical illustrations during the lectures he originally attended, was impressed with the following ideas,—That a Lying-in Institution would be advantageous to provide a routine of real cases for each Gentleman to attend. That the number of students at the commencement of a course, should be governed by the show of registered patients expect-

ing delivery during its term; and that the pupils should first attend in company with an Accoucheur, to obtain sufficient experience to act afterwards alone. The Westminster Lying-in Institution was established for those purposes, January 1st, 1800, where the lectures, machine operations, and labors, during one month, so qualify Gentlemen, that no one has attended till the end of the course without feeling sufficient confidence to engage in public practice.

III.—The science comprehends the birth of children, and treatment of the female constitution from puberty till late in life.

IV.—The endowments of instinct are equal to the process of labor, which in a state of simplicity is generally natural. A woman when alone during travail, from instinct, acting consistently with her situation, will be unable to attend to the wants of her infant, till after delivery of both it and the *placenta;* and as the expulsion of the latter is not simultaneous, the intermediate time allows of the establishment of respiration, in the event of the umbilical cord not being divided, which would maintain life by carrying on the fœtal circulation.

V.—After the placenta is separated from the uterus, the funis becomes flaccid, therefore, whether the former be excluded or retained, it is immaterial how or where the latter is divided; and all parturient females are sensible it should be

done; but that painful period calls the sympathizing attention of the elders of the sex, whose judgment, guided by natural impression or acquired knowledge uninfluenced by science, was equal to the occurrences in those times, and who generally separated the placenta from the child instead of the mother doing it; the division of which was formerly thought to require so much skill, that it created the professional name of Midwife; prior, and a number of centuries subsequent, to the flood, that operation was the province of women only. In those days the average of human age was many hundred years.

VI.—Whether it were males or females employed before the practice became regulated according to scientific rules, their experience increased with years until the progressive mutation in society and civilization, when natural acquirements became superseded by the innovations of art, which, in turn, established itself by habit or second nature; so that now we find women apply to Gentlemen of professional repute to attend them in complaints of utero-gestation, and during parturition.

VII.—At the present period all medical men are sensible of the utility of obstetric knowledge, and from their situation, duty, connexion, engagement, or from casualties in life, are liable to be called upon to afford relief; likewise those who are commissioned in the Army, are often ex-

pected to assist the men's wives in travail; the latter being generally excluded from other help.

VIII.—Such officers are priviledged to attend these lectures, from a conviction both of the propriety and utility of obstetric knowledge, verified by twenty years military experience; likewise by the gracious sanction of His Royal Highness the Commander in Chief.

IX.—About the year seventeen hundred, Midwifery, began to be treated as a distinct science; the first consequence of which was, that of entertaining too high an opinion of the science, placing too much confidence in our own dexterity, or too little dependence on the resources of the constitution, evinced by being frequently employed to deliver when early interference had been adopted and became the cause of difficulty.

X.—Owing to the interest of societies, and claim of individuals, the profession is a sacred trust to those who engage in its operative part, and who, when called upon to attend, the lives of women and children are submitted to their skill, for which they must be responsible. With these, impressions, I have endeavoured to place the process of natural labor in the clearest light, as a guide to the other classes.

OBSTETRIC ADVICE.

A general knowledge, professional talents, private and public character, must all concur to attain an excellence in physic; but more especially in *Midwifery* is our conduct observed. Consider, a female in excruciating pain, imploring our assistance, not only as individuals, but as professional men; likewise consider, the tender feelings, the refined sentiments of mind of an enlightened female, the ornament of society, from whom, under Providence, we derive our being; a sense of which, demands the exertion of every mental and personal ability, with which we are endued. Farther, Heaven only knows the extent of intellect conferred upon that being about to be ushered into existence! the benefit mankind may derive from its exertions; the wonderful discoveries it may make, which have hitherto evaded the research of science. It may be superior to HIPPOCRATES, NEWTON, or HARVEY; and therefore, claims the application of all the means of preservation, both for the parent and child. In the obstetric science, secrecy and chastity are points of importance; What husband will apply to a man of immoral character to assist his wife in travail? or what woman will disclose her mind to a man in whom she cannot fully confide? Our conduct towards other professional Gentlemen, should

be influenced by honor and integrity, for liberality is the ornament of our science.

OBSTETRIC QUALITIES

Are clear judgment, the middle age, a capability of fatigue, and an undisturbed mind.

CONTENTS.

CHAP. I.

Anatomical Description.

CHAP. II.

Menstruation.

CHAP. III.

Conception.

CHAP. IV.

CHAP. V.

Parturition.

CHAP. VI.

Natural Labor.

CHAP. VII.

Protracted Labor.

CHAP. VIII.

Preternatural Labor.

CHAP. IX.

Complex Labor.

CHAP. X.

Puerperal State.

THE

ACCOUCHEUR'S

Vade Mecum.

CHAP. I.

Anatomical Description.

To illustrate the science on which I am about to treat, it will be unnecessary to enter into a detail of the human structure; but it may not be irrespective to give an outline of the parts more immediately concerned in Midwifery; and therefore, I trust, with a general knowledge of anatomy, the following brief description will give a comprehensive view of the subject.

THE PELVIS

Is the foundation on which the other parts of the trunk are sustained; the term *pelvis* means the bones composing it, which in adults are four;—*Os Sacrum*, the posterior part; *Os Coccygis*, the inferior; and *Ossa Innominata*, the lateral and anterior parts.

The Os SACRUM serves as a basis for the support of the *spine*, of which it is an imperfect continuation; it is of a triangular figure, with the shortest side upwards; the anterior surface is smooth, and has a curvature to

enlarge the cavity of the *pelvis*, and accommodate the forehead of the fœtus in its passage, called the *hollow of the sacrum;* in infants it is composed of four or five bones, joined by intervening cartilages, termed *false vertebræ;* these cartilages, in adults, become bone, leaving lines on the anterior surface showing their former separation. The bones diminish in size as they descend;—the lowest forms the point of the *sacrum*, the superior part of which joins the inferior lumbar *vertebra;* the latter inclining over the former, makes an obtuse angle, called *great angle* or *getting-in* of the *sacrum*. On the anterior surface are four or five pair of holes, according to the number of bones composing it, for the transmission of nerves. The lateral parts form a broad surface connected with intervening cartilage, to the posterior surface of the *ossa innominata*. The point joins the superior part of the *coccyx;* the latter being broader than the former, makes the *small angle* of the *sacrum*.

The Os Coccygis is an appendage attached to the inferior part of the *sacrum*. In infants, it is cartilaginous; but in adults, composed of two or three bones, connected by intermediate cartilages, between which a regressive motion is preserved. When pressed by the fœtus it occasions an enlargement of the inferior aperture of the *pelvis*. The *coccygeus*, and other muscles inserted in its sides, prevents lateral motion.

The Ossa Innominata are two in the adult; but in children each is composed of three portions, viz.—*Iliac*, *Ischiatic* and *Pubic*, and are called *Os Ilium*, the haunch bone; *Os Ischium*, the hip bone; and *Os Pubis*, the

share bone. This division of names is retained in adults; though, from ossification, they form but one, the *os innominatum*, the lines of distinction may be observed at the *acetabulum*.

The Os Ilium is the superior portion of the *innominatum*, of a complicated figure; its superior concave space spreads outwards to give room for the expansion of the *uterus* in gestation; the inferior thick part forms a share of the *acetabulum* anteriorly, and of the circumference of the *ischiatic notch* posteriorly, which last is completed by the *ischium* and *sacro-sciatic* ligaments. The inferior prominence of the internal side is a line continuous with that of the *os pubis*, and inclining to the jetting-in of the *sacrum* called *Linea Ilio-Innominata*, defining the superior aperture of the *pelvis*.

The Os Ischium is the inferior portion of the *innominatum*, and forms the inferior part of the *acetabulum*; its spinous process projects inwards, and backwards; the obtuse process is thick, and turned downwards; the thin process ascends obliquely from the obtuse, and joins a similar one, which descends from the anterior inferior part of the *os pubis*, and forms a side of the *foramen thyroideum*.

The Os Pubis is the anterior and smallest portion of the *innominatum*, which forms a part of the *acetabulum*; the junction of it with its fellow, is made by a strong cartilage, termed *Symphysis pubis*; the superior edge has a flexure outwards, to encourage the entrance of the head of the fœtus into the cavity of the *pelvis*; and at the inferior part is a divergence which facilitates the passage of the former; it has a thin pro-

cess, which descends obliquely, and unites with that of the *ischium*.

The ARCH OF THE PUBES is formed by the *ossa ischii* and *ossa pubes;* the anterior parts of the *ossa pubes* form the top, the thin processes of the *ischiæ* and *pubes* the sides, and the tuberosity of each *ischium* the bottom; the arch, being wider in women than in men, is favourable to the free passage of the fœtus at the time of birth. The anterior superior vacant space in the *pelvis* above the *pubes* is to allow the contents of the *uterus* an easy bed.

The CONNEXION OF THE SACRUM with the *innominata* at the *sacro-iliac* junction, and of the *innominata* with each other at the *symphysis*, is covered with a *ligamentous* cartilage, adhering to the parts which it encloses; the *periosteum* is internally thickened at those places; the tendons are inserted into the projecting extremities of the bones, and all of them externally contribute to the strength of the pelvis. From the posterior surface of the *innominata*, which joins the *sacrum*, strong ligaments pass to bind them together, and the space between is filled with muscles, covered by a tendinous expansion, which forms a smooth surface. From the obtuse processes of the *ischiæ*, the external *sacro-sciatic* ligaments pass to the posterior edge of the *sacrum* and *coccyx;* from the spinous processes of the *ischiæ* the internal *sacro-sciatic* ligaments arise, which, crossing and adhering to the former, pass to the inferior inner edge of the *sacrum* and *coccyx*.

The CAPACITY OF THE PELVIS is the space be-

tween the bones, divided into two cavities, superior and inferior. The *axis* of the superior cavity is in a line from the centre of the diameters at the brim to the extremity of the *os coccygis*, and that of the inferior cavity is in a line from the centre between the tuberosity of each *ischium* to the centre of the hollow of the *sacrum*. The *axis* of the inferior cavity and direction of the vagina are synonymous terms. An illustration of the direction of the upper and lower cavities is conveyed by placing a catheter in the *axis* of the brim, with its extremity in that of the outlet. The line of motion of the head of the fœtus corresponds to the *axis* of the part in which it is placed.

The DIMENSIONS OF A STANDARD PELVIS.—Its cavity has two apertures; the superior is the brim, the inferior the outlet; the superior aperture represents an oval figure; the long diameter is from the inferior prominence of one *ilium* to that of the other, and measures five inches and a quarter; the short is from the superior part of the *os sacrum* to that of the *pubes*, four inches and a quarter; the dimensions of the inferior aperture are reversed. Allowing for the regression of the *os coccygis*, there are five inches from its *apex* to the inferior portion of the *pubes*; and the inferior parts of *the ischiæ* are four inches asunder.

The DEPTH OF THE CAVITY from the superior part of the *os sacrum* in a straight line to the point of the *os coccygis*, when pressed back there is a space of six inches; the depth of the sides to the inferior extremities of the *ischiæ* is four inches. From the superior to the inferior parts of the *ossa pubes*, is a distance of two inches, admitting the ligaments to make a share of the

outline of the inferior aperture. By recollecting—1st, That the sides are twice, and the posterior three times the depth of the anterior part; and—2nd, The situation of the presentation at the commencement, we may judge how far the head of the fœtus has proceeded through the cavity of the *pelvis*, at any subsequent period of labor.

The FORM OF THE CAVITY is posteriorly concave; laterally and anteriorly perpendicular, with a convergence towards the inferior aperture, formed by the points of the spinous and obtuse processes of the *ossa ischii*, and termination of the *coccyx*. It is of importance in regulating the passage of the head, as it descends; for, being perfected by the soft parts, it gives to the presentation the disposition to emerge under the arch of the *pubes*. The facility of the head passing through the cavity may depend on the hollow of the *sacrum;* a similar curvature is continued by means of the *ischiatic* sinus, and by the disposition of the *sacro-sciatic* ligaments to the obtuse processes of the *ischiæ* at the sides, where the cavity is perpendicular.

By a knowledge of the SEPARATION OF THE BONES of the *pelvis*, relaxation of their connecting medium and of its relation to other parts, are we enabled to explain many sensations to which women are subject during pregnancy, at the time of labor, and after delivery. It was formerly an opinion that the bones separate in parturition; frequently we may observe a considerable lameness during labor, and often an inability to walk, or even to put one foot before the other, without being supported between two persons, indicating relaxation of the connecting medium; when either it or a separa-

tion happens three causes may be assigned,—a spontaneous disposition of the connecting parts, their morbid affection, and the violence with which the head of the fœtus may be protruded through the cavity. After delivery we may ascertain whether either of these effects has happened by complaints women make of pain in those places; they are generally relieved of relaxation during their month of confinement; but, should it remain longer, the continuance of rest and a recumbent posture favour the restoration of the parts; for by quietude their infirmity must be repaired. If we were to draw a conclusion from many of the French writers, we should judge that a separation of the bones is by no means uncommon; still, however, I must state that I never saw a case in which that occurrence was clearly defined.

A DISTORTED PELVIS;—The observations on the cavity relate to its natural state and shape; but it is liable to deformity; the most usual cause is the rickets, a disease incident to children; preventing the bones from acquiring their due strengh to support the weight of the body; they bend in different directions, and fix the distortion for life. This disease seldom exists without communicating some effects to the *pelvis:* the distortion generally produced, is by the superior part of the *sacrum* and inferior lumbar *vertebra* projecting too far towards the *pubes.*

In a PELVIS that allows an ordinary sized head to pass through its cavity—1st, The projection of the *sacrum* is touched with difficulty by a *vaginal* examination, and it is three inches from the *ossa pubes;*—2nd, The concavity of the *sacrum* is natural without

convexity, or straightness, and its point with the *os coccygis* does not press inwards ;—3d, The arch of the *pubes* is in its ordinary state, and we can place two fingers nearly flat under the symphysis, with a distance of three inches from one tuberosity to the other.

THE HEAD OF THE FŒTUS

Is of an oval figure, largest from the hind to the fore part; the diameter from one ear to the other is less by the same proportion as the antero-posterior diameter of the brim of the *pelvis* is less than the lateral one.

The bones of the *cranium* are six in number; the *os frontis*, forming the anterior part; the *ossa parietalia*, the superior; the *os occipitis* the posterior; and the *ossa temporum* the lateral parts.

The SUTURES are many; but we shall enumerate such as connect the external convex division of the skull together, as they only require the Accoucheur's attention. The *sutura frontalis* unites the two pieces of the *os frontis* together. The *coronalis* joins the *os frontis* to the *ossa parietalia*. The *sagittalis* connects the *ossa parietalia* together; the *lamdoidalis* joins the *os occipitis* to the *ossa parietalia*.

In the FŒTAL CRANIUM we observe two tangible apertures formed by an imperfect coalescence of the bones, superiorly situated, these are denominated the fontanels, of which—1st, The anterior is an unossified space between the coronal sagittal and frontal sutures, known to the touch by four angles ;—2nd, The posterior is where the sagittal meets the lamdoidal suture, and

which is known to the touch by three angles. We notice that at birth the bones of the head are but incompletely ossified, and this enables the cranial bones to overlap each other; thus by diminishing the size of the head, facilitates its readier extrusion. In its passage it is subject to a considerable degree of pressure, which without the above arrangement would often prove fatal to the child. The largest part of the head naturally corresponds with the widest capacity of the *pelvis*, so that they maintain a relative proportion between each other, and thus the head assumes a variety of shapes, which spontaneously disappear after birth.

The VERTEX OR CROWN, is that part of the scalp where the hair diverges in a radiated manner, which in regular labor presents first, but in irregular comes last; hence the division Accoucheurs have adopted between natural and preternatural; by the first is meant, when the head precedes the body in delivery; by the last, when it follows the other parts.

In the PROGRESS of the HEAD through the cavity of the *pelvis*, the long diameter is applied to that of the superior aperture with the vertex to the centre; and an ear towards the *pubes*, being aided by the form of the internal surface, the lower the gravitation the more diagonal is the position of the ears; when the head has descended to the inferior portion of the *ischium* the posterior fontanel may be felt near it. By a convergence of the inferior part of the cavity, the vertex is forced to emerge under the arch, where it finds the least resistance, which, at the same time, guides the forehead into the hollow of the *sacrum;* thus the long diameter is applied to that of the inferior aperture. If

the head presents differently, there will be corresponding but not the same changes; or if small, it will not be influenced by the cavity, but pass in any direction. The changing position of the head through the cavity of the *pelvis*, is founded on the presumption that it presented naturally, and is guided by the form of the internal surface: no ill consequence would follow an erroneous opinion of it in natural labor, if assistance be not wanting; no principle of conduct is required.

COMPARATIVE PARTURITION.

Taking a view of parturition, we find it more tedious in women than in quadrupeds, owing, perhaps—1st, From the perpendicular position of the body rendering a relative capacity of the *pelvis* indispensable to prevent the impregnated *uterus* from descending by its own gravity;—2nd, Not being in a line with the spine, the direction of any body that passes into and through it must be changed whilst proceeding through the vagina: it takes a different course to that which brought it into the upper cavity,—3d, The head of a fœtus being larger in proportion to the magnitude of its body than that of any other animal; probably from the greater quantity of cerebral organs it contains, which appears necessary for the better exercise of the sensorial functions, it being acknowledged that the powers of rationality bear analogy to the size of the brain possessed by every thinking being. The above causes may augment the ardour or pain, but cannot be said to lessen the safety of human parturition.

THE ORGANS OF GENERATION

Are divided into external and internal :—the former are visible, the latter invisible.—

The EXTERNAL PARTS are—1st, The *Mons veneris*, a prominence upon the *ossa pubes* covered with hair, extending towards the groins and abdomen ; defined by an imaginary line drawn at right angles, with the superior part of the pudendum ;—2nd, *Labia Pudendi*, having, also, a similar covering anteriorly ; they commence at the inferior part of the *mons veneris*, and unite posteriorly at an obtuse angle, called,—3d, *Frenum Labiorum*, or fourchette, and forming a cavity denominated—4th, The *Fossa Navicularis*—5th, *Os Externum*, or *vulva magna*, the intermediate space between the *labia*, going inwards to the *vagina*, for direction of the *penis* in *coitu*,—6th *Perinæum*, or that portion of common integuments from the *fossa navicularis* to the anus, which is sometimes, though rarely, *lacerated* in labor—7th, *Clitoris*, a small oblong body situated below the anterior angle of the *pudendum*, in shape very similar to the male *penis*, having a glans, but no *urethra* ; its prepuce is denominated the *præputium* clitoridis, and it arises by two crura which coalesce and form a spongy body, to which the *nymphæ* or *labia minora* are attached—8th *Nymphæ*, which are two small fleshy appendices anterior to the *labia magna*, spreading outwards and downwards in direction of the *orifice* of the vagina ; they form the *fossa magna* between them, and serve to regulate the stream of *urine*—9th, *Urethra*, a short *cylindrical canal*, about

an inch in length, leading to the *vesica* or bladder, situated between the *nymphæ*, just above the vaginal entrance, immediately under the *pubic* arch, and about two fingers breadth below the glans clitorides; it is known to the touch by a small *rugous papilla*, or protrusion, in the centre of which its orifice or meatus is to be found; surrounding it are several minute glandular *folliculæ*; it runs to the bladder along the internal surface of the *symphysis*.

The HYMEN, which is a semilunar membrane, extending across the entrance of the *vagina* at the lower part of the *vulva* towards the *meatus*, so as to form a barrier between the external and internal *organs*. The ancients considered it the test of *virginity*, and exhibited it in the form of a crescent as an emblem of chastity. The hymen is usually broken in the first act of coition; but it has been known to acquire a morbid thickness so as mechanically to impede the flow of the menstrual deposit, and to obstruct connubial intercourse. In case of imperforation, a small puncture will generally be sufficient; but in some instances a more scientific operation is required.

The EXTERNAL PARTS are—1st, The *Vagina*, the passage from the *os externum* to the *os internum*, of a conical form, the narrowest extremity downwards, more contracted in virgins than in married women: the upper end is connected with the cervix *uteri*, and reflected over the mouth of the womb; by this mode of *union the os uteri* is suspended with protuberant lips in the *vagina*—2nd, The *os tincæ*, *os internum*, and *os uteri*, are synonymous terms, and promiscuously used by Accoucheurs. They mean the entrance to the womb

resembling the mouth of a tench or a young puppy, prior to *labor*, but after dilatation has commenced for delivery, it loosing that resemblance, is more properly called *os internum*, or *os uteri*.—3d, The *uterus*, *matrix*, or womb, is a hollow bag-like receptacle for containing the fœtus after conception. It is divided into *cervix*, *corpus*, and *fundus*, and is suspended at the superior termination of the *vagina* between the *vesica* and *rectum*. It is three inches long from the *os internum* to the *fundus*; one inch thick from the anterior to the posterior part; two inches broad at the *fundus*, and one at the *cervix*. Its substance is about the eighth of an inch thick, which increases during pregnancy, probably to near half an inch. The *uterus* serves as a nidus for the ovum to grow in, and increases in proportion as gestation advances, by enlargement of its vessels and parietes; when increased in size it lies in the abdomen before the intestines; it is composed of muscular fibres which, although not always cognizable to the eye, manifest their existence by uterine offices in parturition: during part of the second, and the whole of the third stage of that process, the commencement of the uterine cavity, and termination of the vaginal, form one continuous canal; and thus, by dilatation, the *os internum*, in a manner, becomes obliterated till the expulsion of the fœtus.—4th, The fallopian tubes, each having a fimbria or morsus diaboli, originate from the angles of the uterus, and by canals which pass through them preserve a communication between its cavity and the *ovaria*.—5th, The *Ovaria* are two spherical bodies,

situated about an inch from the uterus, inferiorly to the fallopian tubes, and are enveloped in a duplicature of the *peritonæum*.

CHAP. II.

MENSTRUATION.

The TIME of PUBERTY varies in different climates;—in this country it appears from fourteen to sixteen years of age, sooner or later. The effects are—1st, Hair growing in the *axilla*, and on the *mons veneris*, which swells up—2nd, The *Uterus* becoming more expanded, receives its adult form and is susceptible of impregnation—3d, The *Vagina* is enlarged—4th, The *Pelvis* and its cavity augmented, but do not acquire the adult size until women are eighteen years of age; therefore they ought not to marry before that period—5th, The Breasts are expanded, and their glandular substance unfolded—6th, An animated countenance and a graceful attitude are visible—7th, An harmonious tone of voice is heard—8th, New passions begin to operate with,—9th, The regular appearance of the menses.

The MENSTRUAL FLUX is a periodical secretion from the uterine vessels. Although red and similar in appearance to blood, its properties are different; for it is never found to coagulate; and is discharged from the genetals of a healthy woman, about every lunar month, from puberty till late in life, unless interrupted

by pregnancy, lactation, or disease. When the time of menstruation approaches, women are liable to pains, in the inferior extremities, loins, breasts, head, &c.; and to hysterical or nervous affections, more or less acute; all of which are removed when they appear, but return with considerable violence in some women at every period.

The EFFICIENT CAUSE of this discharge is not explained, but its final effects are—1st, The Health of the female constitution—2nd, The Salacity of her disposition, and—3d, The Capability of her *uterus* for procreation. Girls are not liable to conceive prior to the appearance of the menses; but subsequent to it, they are most likely just before and directly after. Lactation and menstruation have a similar effect in preserving the uterine functions; and pregnancy stops the secretion of the menstrual fluid in the uterus, and pure milk in the breasts. Though the former may flow in the latter, it loses its grateful taste and nutritive principle. Two similar processes in the system, are rarely witnessed at one time—if one child is at the breast and another in utero, the first will be neglected by nature.

OBSERVATIONS ON MENSTRUATION;—1st, The Menstruating period, which lasts about four days, is implied by the term unwell—2nd, During that time, fresh fish, or milk, are apt to derange the stomach—3d, The quantity secreted at each period is about four ounces; but it depends on constitution, manner of living, or climate; as warm countries increase and cold ones diminish it—4th, As much is secreted in a middle day, as in

the first and last days together—5th, It varies in different women in the same climate, and with the same persons at successive periods—6th, The appearance of the menses in youth governs their disappearance in age; one year earlier or later in the former being equivalent to two or three in the latter;—evident by one menstruating at fourteen and another at sixteen, the first, continuing at regular periods till forty and the last till forty-six—7th, They customarily continue about thirty years—8th, Women are more subject to spasmodic and hysterical complaints during the menstrual period than at other times—9th, In some the secretion appears early without any morbid cause, induced by strength of constitution, vascular action or fullness of vessels, and usually characterized by a full pulse, florid complexion, enlarged breasts, and a warm imagination; with such females it may commence by the thirteenth year, and, in many instances, before that time;—here a spare diet, aperient medicines, and well-regulated exercise, are recommended —10th, Whenever we attend females about the age of puberty, whatever their disease may be, the menses should form a part of our inquiry; it shews attention, affords us information, and conveys an idea of our acquaintance with the peculiarities of the female constitution—11th, When patients apply for the removal of an obstruction of the menses, if they have morning sickness, pain and swelling in the breasts, a dark areola round the nipples, with a natural colour on the cheeks, we suspect the existence of pregnancy—12th, Obstructed Menses, with flushings in the face, slight cough, pain in the breasts, difficult

respiration and fever, indicate a hectic disposition; in which it is advisable to bleed in small quantities; give gentle aperients, antiphlogistics, and prescribe a vegetable diet; pure air and a cautious attention to the nonnaturals.—13th, When an attack of alarming peripneumony or any other inflammatory affection supervenes n a constitution labouring under obstructed menses; the urgent symptoms must be attended to without regarding the primary complaint.

DISEASED MENSTRUATION.

The disordered state of this secretion has two general divisions:—

AMENORRHŒA is the first division; a partial or total obstruction to the menstrual deposit, from other causes than pregnancy or old age. It is essential to health, that the catamenia should be regular in quantity, quality, and its monthly periods—If it is obstructed, nature essays to obtain it some outlet, and when her efforts fail, the consequence may be the accession of various other affections. *Amenorrhœa* has its subdivisions into—1st, *Chlorosis emansio mensium*, that is, when the discharge does not appear so early as is usually expected.—2nd, Suppressio mensium; when, after the menses appear and continuing established for some time, they cease, from various causes; but it is generally owing to an unguarded exposure to cold or moisture, improper food, impure air, want of exercise, abstinence from sexual intercourse, &c. If the exciting cause to *amenorrhœa* be recent, the result may

be Acute Obstruction, attended with a full quick pulse, hot dry skin, thirst, pain in the head, back, loins, and limbs, with an increased action of the vessels. The treatment here recommended, is, early bleeding, emetics, cathartics, the warm bath, and diaphoretics. If the exciting cause to *Amenorrhœa* be the failure of the monthly evacuations for several periods, it is termed *Chronic Obstruction*, which, although originally accompanied by an increase of action in the vascular system, is succeeded by debility, and the ill state of the patient's health becomes evident;—1st, By appearance, as manifested in a sallow skin, pale complexion, cold, flabby or feebleness, with edematous swelling of the feet and ancles towards the evening, and a turgid appearance around the eyes in the morning—2nd, By constitutional affections,—as, a weariness and debility; an inaptitude to exertion; loss of appetite, or an inclination for improper food; flatulence, difficult raspiration; palpitation; hysterical symptoms; disturbed sleep; small quick pulse; pain in the head; sense of weight over the eyes; pain of the back, loins, &c. The most successful treatment, is, the occasional exhibition of gentle emetics and aperients, to keep the primæ viæ clear from fœcal accumulation: with this intention invariably had in view, other remedies should be resorted to, as the combination of symptoms renders their utility evident. Where the stomach and appetite are mended, small doses of steel may be given, or the chalybeate waters, with generous diet, pure air, and moderate exercise; which last is to be increased with the strength of the patient. Although the discharge

in some cases be not readily produced, yet the general health having been improved is a prelude to it; and afterwards if it does not appear, various deobstruents are recommended, both medical and mechanical;—of the former may be enumerated the fœtid gums, calomel, hellebore, savine, &c.—and of the latter, all kinds of exercise, as dancing, swinging, &c.; but the most effectual remedy with which we are acquainted, is, the judicious application of medical electricity, directed through the uterus and its appendages; which being persisted in for some length of time, often gives relief. Electricity, acting locally, in some instances may be relied upon solely for the cure of amenorrhœa; yet, on most occasions, medical remedies of the ferruginous class should be given, which improve the general habit, and materially facilitate the operation of the salutary powers of the former.

DISMENORRHŒA is when this flux is unusually small in quantity, and attended with severe pains in the back, loins, and region of the uterus, owing to an irritable state of the constitution, which is apparent in many females, producing an imperfect menstrual action, or as it would seem, a difficulty of the uterine vessels to become permeable;—this state requires the exertion of medical interference to alleviate; since women but rarely conceive who do not menstruate regularly, for correct menstruation indicates a capability of impregnation. The treatment generally found useful, is, the occasional use of the lancet, gentle laxatives, moderate exercise, the warm bath, and electricity, with chalybeate remedies.

MENORRHAGIA is the second division.—An immoderate flow of the menses, accompanied with pains in the back, loins, and inferior parts of the abdomen. The distinctions are—1st, Menorrhagia *rubra;* or that which flows from women neither with child, nor in child birth—2nd, *Menorrhagia vitiorum*, arises from some local disease—3d, *Menorrhagia* abortus, which is that produced by abortion—4th, *Menorrhagia alba*, the fluor albus, whites, or leucorrhœa—5th, *Menorrhagia* lochealis, from women after delivery—6th, *Menorrhagia Nabothi*, when there is a serious discharge from the vagina. The last four will be considered under their respective heads, but the two former require attention ere we proceed farther.

MENORRHAGIA cannot occur before puberty; we find it is an attendant on pregnancy; for the causes which, most frequently, either individually or connectedly, occasion floodings,—vide first and second varieties of hemorrhage, wherein we may conjecture a principal to consist in the partial, or total detachment of the placenta from the *uterus*, leaving the mouths of the vessels of the latter, which anastomosed with those of the former, perfectly open.

It is necessary to distinguish between an approaching miscarriage and a common flooding, which may be readily done, by inquiring whether or not the *hemorrhage* has proceeded from any evident cause, and whether it flows gently, or is accompanied with unusual pain; the former commonly arises from some fright, surprise, or accident, and does not flow gently, and regularly, but bursts out of a sudden, and again stops

all at once, and also is attended with severe pains in the back and region of the *uterus;* whereas the latter is marked with no such occurrence.

PROFUSE MENSTRUATION implies, either a preternatural return of the menstrual periods in frequency and duration, or a superabundant quantity of the secretion. The exciting cause of menorrhagia, may be general plethora of the vascular system, or the opposite extreme, as uterine or constitutional debility, induced by frequent pregnancies, abortions, or an excess in venery; and we find married women are, in consequence, more subject to this complaint than virgins. The superfluous discharge, whether from an early miscarriage or produced by *polypous tumours*, or, induced, by other local irritants, has been often injudiciously mistaken for menstrua; a conviction of this fact induces me to suggest the propriety of having recourse to an examination per vaginam, when such are suspected. The treatment, if the disease be simply a profuse menstruation, will be fulfilled by keeping the bowels open with gentle aperients, as for example—a draught may be given two or three times a day with a drachm of the Magnesiæ Sulphas, and an ounce and a half of the Infusum Rosæ, in each, which may be succeeded by such medicines as strengthen the system; quietness, a recumbent posture, with attention to diet and regimen, are essentially necessary.

LATE MENSTRUATION

PROPAGATION of the species is confined to the vigorous part of life, most able to support it; when the powers of conception are lost, the menses gradually diminish; they may continue to the fortieth year, and sometimes much longer. The period when they begin to appear irregular, is called the *dodging time*, which with some is dangerous; it is an era in female existence nearly as critical as the commencement of puberty, in as much as all glandular and schirrous complaints a patient may have been troubled with, and which were protracted by pregnancy, suckling, or monthly discharges, are likely to commence with violence at their cessation. This last period is implied by either of the following terms,—the *change*, the *turn*, or the *time* of life; after which the constitution of women neither requires nor allows a continuance of the *catamenia*. Many practitioners advance that the menses may continue too late in life, or in old age, but this affirmation has never been verified within the range of my practice; such discharges ought rather to be accounted as symptomatic of other complaints. When the female constitution from any cause, requires a sanguinious eruption, it is often made from the *uterine* vessels, and if scrutinized by skilful analysis, will be found to differ widely from the menstrual deposit, and particularly in that most remarkable of all properties, its incoagulability.

STERILITY OR BARRENNESS.

It is, unhappily, for the connubial felicity, by no means uncommon; the vexation and disappointment it produces in the matrimonial state, serves to embitter every moment of life, and as such a state more frequently depends upon irremediable organic defects, than any temporary idiosyncracy of constitution, the prospect of professional advice being serviceable is extremely dreary. When, however, it arises from an imperfect action of the generative system, relief is not always impossible. Fluor albus, universal debility, exhaustion of the uterine economy from frequent and promiscuous intercourse with the other sex, as prostitutes, who but rarely conceive; corpulency, inducing an inactivity of the ovaria, amenorrhœa, menorrhagia, &c. comprise the more prominent features in the catalogue of exciting causes, which impede the exercise of the *uterine* functions. In some females, the generative system is susceptible of its particular stimulus, or powers being acted upon by the semen of one person, and not by that of another. Amongst the organic defects preventing impregnation, and for which the imperfection of our art affords no cure, are a deficiency or imperfection of the *ovaria;* an impervious state of the *tuba fallopiana,* or a state of *uterus* not admitting of impregnation, &c.—In sterility the breasts are usually flat; the external appendages indistinct in their formation or growth; and the sexual desires inconsiderable.

CHAP. III.

CONCEPTION AND UTERO-GESTATION.

THEORY of CONCEPTION—1st, If there be no imperfection in the generative organs, the time of puberty is ascertained by the secretion of fluid, seminal in the male, and menstrual in the female;—2nd, Two individuals, male and female, of the above description, must be mutually employed in the formation of an embryo, or rudiments of a new being;—3d, The *Primordium* of life which is secreted by the male testes, and emitted by their ejaculatory ducts through the penis into the female organs, propelled with sufficient velocity to reach the part to which nature has ordained it a specific stimulus, its vivifying principle either in the form of a fluid, or subtle aura becomes conveyed to one or more *ova*, originally placed in the *ovaria*, which it pervades and impregnates with its wonderful principle; but how, or in what manner, the most celebrated physiologists have been unable satisfactorily to explain.—The inconsistencies in their opinion serve to assure us, that the phenomenon of impregnation is but little understood;—I cannot do better than decline offering any unphilosophical remarks of my own, and refer you to the writings of Haller, Degraafe, and Harvey, who have given this intricate subject a most elaborate investigation. Philosophers, however, have generally admitted—4th, That the principle of the male being somewhat analo-

gous in its nature to that of the female, it unites therewith; and this inference arises from the resemblance between a child, or an animal to both of their respective parents. Thus we know by observation, that the offspring of black and white parents, possesses such a cast of features as indicates a change in the *rete-mucosum*, or colour of the skin, which gets it the name of mulatto; a horse and an ass are found to engender a mule; and two animals approaching to each other in their nature and habit, propagate by *coitu*, an offspring similar to both;—5th, The *uterus* is endowed with nervous sensibility for reception of the impregnated *ovum*;—6th, The motion of its internal fluids speedily commence;—7th, It is connected with the *uterus* by the *membrana decidua*, or reflexa, a delicate membrane which gradually beomes vascular, soon adheres to the former, and forms an inner lining to its cavity, wherein—8th, The *Ovum* and its contents, the fœtus, may be nourished nine kalendar months, or forty weeks,—9th, It has a distinct circulatory system of its own, by means of the sanguiferous fluid which it receives from the mother.

SIGNS OF CONCEPTION.

The UTERUS, being the seat of sympathy, during its gravid state, becomes the agent of affection; and is productive of changes in the general system; as in the state of the blood, the functions of the body, the habits, tempers, and inclinations of the person; we are thence enabled to form a correct estimate of the phe-

nomena, about to follow impregnation, and experience shews that the presence of the symptoms enumerated below, point out the existence of that state.—1st, Suppression of the *menses*—2nd, Thirst—3d, Hot skin—4th, Quick pulse—5th, Loss of appetite—6th, Dispepsia—7th, Salivation—8th, Erratic pains—9th, Cough—10th, Hectic appearance—11th, Longing for unnatural food; and—12th, An irritable temper. The following three symptoms;—Tumefaction of the breasts,—Darkened areola round the nipples;—and Morning sickness in the erect posture, are said to be evidences of the life of the fœtus in utero; and their sudden disappearance, is indicative of its death. The sickness sometimes continues throughout the day, and although very troublesome, seldom admits of alleviation by any other means than gently clearing the *primæ viæ*. The following four symptoms;—*Costiveness*, *Diarrhœa*, *Tenesmus*, and *Strangury* are sometimes produced by sympathy, or pressure in the early months of pregnancy, whilst the uterus is in the cavity of the pelvis, and may be the exciting cause of abortion. Mechanical pressure of the *uterus* upon the *rectum* and *vesica urinaria* in the advanced stage of utero-gestation, is likewise every now and then productive of serious inconveniences. The uterus is so important an organ in the animal economy, that there is scarcely a part of the body that is not under its influence; even the functions of the brain are not exempt. A lady was lately sent to a private madhouse at Hoxton, with symptoms of insanity, till the time of quickening, after which she returned home perfectly well. Thus symptoms of irri-

tability attend the early months of pregnancy, and those of pressure the latter; these, though troublesome, are not dangerous; pregnancy being protected from a variety of complaints; and as fewer women die during that period than at any other, it is deemed a state of health. Those who are troubled most with symptoms of pregnancy before quickening, are most likely to go their full time.

By QUICKENING is meant the first sensation felt by the mother, denoting the existence of a fœtus in *utero*, and is by women erroneously supposed a criterian, that the ovum then receives the principle of life; the motion is experienced between the twelfth and eighteenth week of pregnancy, though less frequently at the former period than the latter; it seems to be induced by the *uterus* augmenting in bulk, and rising from the cavity of the *pelvis* into that of the *abdomen;* therefore its early or late perception, is, in some measure, dependant upon the size of the former; for the more capacious that is, the longer will the womb be ere it ascends into the latter. The symptoms are, usually, fainting, or some hysterical affection, and in a few instances a trifling discharge from the female organ of a sanguiferous fluid.

CONTENTS OF THE GRAVID UTERUS.

These are comprised under the term *Ovum;* the component sare—1st, The Fœtus—2nd, The *Funis Umbilicalis*—3d, The *Placenta*—4th, The *Membrana Amnion Chorion* and *Decidua* or *Reflexa,* which come with the

ovum into the uterus at the time of impregnation continue to increase in proportion as the fœtus advances towards maturity, and are thrown off by uterine contraction after the expulsion of the child, when they are denominated the *secundines*, or after-birth; with these are to be named—5th, A gelatenous fluid secreted by the first-mentioned, and called the liquor *amnii*.

The terms EMBRYO, FŒTUS, and CHILD, are by no means synonymous; though they bear an allusion to the same individual thing. The first signifies a conception, till all parts of the new being are evolved, which includes a period of about three months, dating from the primary result of coitus. The second means an *embryo*, from the formation of all its fœtal parts till delivery. And the third denotes a fœtus after the change has taken place at birth, which characterizes the supercedation of fœtal life, or what may be considered vegetable existence to animal vitility, through the medium of respiration and pulmonary circulation.

The DIFFERENT PERIODS at which the expulsion of the uterine contents take place, are divided into similar arrangements, which take the name of miscarriage, abortion, premature delivery, and labor. By the first is meant the expulsion of the embryo entire. The second denotes that of the fœtus, till the termination of the sixth month. The third comprehends the beginning of the seventh month, (or when the uterus is distended sufficient to admit of a manual operation), till the full period. The fourth requires no explanation.

INCREASE of the GRAVID UTERUS.—At the end

of the third month of gestation, the ovum is the size of a goose's egg, and one fourth of the cervix uteri, at its superior part, is distended equally with the fundus. At the termination of the fourth month, or after quickening, it may be felt through the integuments of the abdomen. At the end of the fifth, it rises to the midway between the pubes and the navel, with half of the *cervix* distended. At the close of the sixth, as high as the navel. At the end of the seventh, half way between the navel and *scropiculis cordis*. By the eighth, or beginning of the ninth month, to the *scropiculis cordis*, its utmost height. From thence, in the course of the last month, it begins to subside.

The PLACENTA is a mass formed by the *chorion* and *amnion* membranes; it resembles a cake, thicker in the middle than at the edges, and is composed of arteries and veins. Its use is to prepare and bring the arterial blood of the parent to the fœtus for its nourishment. Its external surface attached to the uterus is lobulated, and convex; its internal covered with the *amnion*, is concave and smooth. In case of more than one fœtus, each has its membranes and placenta.

The FUNIS UMBILICALIS is attached nearly in the centre, or that part which is called the root of the placenta, by the union of its vessels which are composed of two arteries, conveying the blood from the fœtus to the *placenta*, and one vein which transmits it from thence to the fœtus; they are generally twisted round each other; and to guard them from compression, or the funis from forming an acute angle, it is covered with the *amnion*, inclosing a gelatinous fluid,

between the latter and the former, which, without this wise arrangement, would frequently occur, and thereby impede the circulation. The cord perforates the abdomen of the fœtus, to maintain a communication between it and the *placenta*. The length of the navel-string is from four hands breadth to ten.

The MEMBRANES are three; two of which, with the *placenta*, form the bag or *ovum*, containing the fœtus, *funis umbilicalis* and liquor *amnii*. The *chorion* is vascular, and forms three fourths of the outside of the bag, attached to the edge of the *placenta*, which forms the other quarter. The *amnion* is transparent, attached to the internal surface of the *chorion* and *placenta*, reflected over the *funis*, and terminates at the *umbilicus*. The third is a delicate membrane, adhering to the internal surface of the *uterus*. The safety of the fœtus depends on that of the membranes, as unless they are ruptured prematurely, a live fœtus at the commencement of natural labor, is sure to be a live child at the conclusion of it.

The LIQUOR AMNII is that fluid contained in the *ovum*, so called during pregnancy, but in labor it is termed the *waters*. The child's body is frequently covered with a substance resembling white paint, precipitated from the liquor *amnii*; soap, sponge, and warm water will readily cleanse it. The use of the liquor *amnii* is—1st, To defend the fœtus from the mechanical efforts of the *uterus*, in the early months of pregnancy—2nd, To defend the *uterus* from the fœtus in the latter months—3d, To preserve the fœtus alive, allowing it room for action, and circulation—4th, To prevent any

morbid adhesion of parts—5th, It serves as an easy bed for the fœtus in *utero*—6th, Its lubricating properties facilitate the parturiant process—7th, It forces down the membranes in dilating the *os uteri*, *vagina*, and *os externum*, and—8th, It protects the fœtus from the contractile powers of the *uterus*.

UTERO-GESTATION.

The term UTERO-GESTATION, implies the existence of a fœtus in the cavity of the *uterus;* and the space of time from conception to parturition.

SUPER-FŒTATION is one conception made on another; this opinion arose from several fœtuses being in the *uterus*, where one or more die at an early period, but are not ejected till the full time, and then in a decayed state, whereby women may have one or more still-born before or after the birth of a child, all impregnated at the same time. The following obstacles set a side the possibility of impregnation during gestation—1st, The *Fallopian* tubes become flaccid during that state—2nd, Their communication with the cavity of the *uterus* is intercepted by the *decidua* membrane; and—3d, The *Ostincæ* remains closed from coition till near parturition, by a *viscid mucus*.

The SITUATION of the FŒTUS in UTERO, is calculated to take up as little room as possible, and forms an oval figure. The chin rests upon its breast, and is in contact with the knees. The thighs are drawn up to the belly. The legs are reflected backwards. The feet are closed, and close to the breech. The arms

cross each other round the legs, or the hands are disposed to the cheeks, with the arms folded up. The position is between flexion and extension. The head is lowermost with its diameters corresponding with those of the brim of the *pelvis*.

The PERIOD at which UTERO-GESTATION commences is difficult to prove; the disappearance of the menses is the only criterian by which we are enabled to form an estimate; yet women are all along liable to conceive between the period of their being unwell; and that of expecting to be so. The natural time is forty weeks, but it is usual to take the *interum*, and calculate forty-two from the last menstruation, or twenty-two from quickening, they may be delivered sooner but cannot go longer.

FŒTAL NOURISHMENT.—The *Placenta* is composed of two series of vessels; each consist of arteries and veins, interwoven with each other. The first series of vessels are continued from the *funis*, which ramify on its internal surface; the arteries run over the veins, and sinking into its substance, divide into small branches. The second series, which, proceeding from the *uterus*, ramify in a similar manner to those of the *funis*, as appears when a *placenta* is injected from the vessels of the *cord* and from those of the parent. The veins and arteries accompany each other in their ramification as in other parts. The two vascular systems are distinct, maternal and fœtal; the circulation of the latter is unconnected with the former, excepting that the material principle by which the blood of the fœtus is renewed, must be derived from the parent. The blood which

undergoes a preparatory change in its passage through the *uterus*, is conducted by the maternal arteries to the *placenta*, where it is deposited in cells, from which its nutritious part becomes absorbed, and conveyed, by veins to the fœtus. When the blood has circulated through the latter, it is transmitted by the arteries of the *funis*, to the after-birth, from the cells of which it is taken up by an absorbent power, inherent in the maternal veins, and through them is re-conveyed to the *uterus*. The *placenta* performs the office of a gland in secreting nutritious parts from the blood; perhaps, in a way similar to the secretion of milk; the veins are said to fulfil the office of absorbents, as no lymphatics have been detected; and therefore, the only communication between the parent and fœtus, must be by the sanguiferous system.

Fœtal Circulation—In the fœtus a communication is preserved between the right and left auricles of the heart, through the *septem auricularum*, by an opening, called *foramen ovale*, and between the pulmonary artery and *aorta*, by the *ductus arteriosus*, the blood returns by the veins from all parts of the body; to the right auricle of the heart, where it divides into two portions, taking different directions. The first or smaller portion, passes to the left auricle of the heart, through the *foramen ovale*, thence to the left ventricle of the heart, and thence to the *aorta*. The second portion passes to the right ventricle of the heart, and thence to the pulmonary artery, where it divides into two courses, one goes through the *ductus arteriosus* to the *aorta;* the other passes to the lungs to be circu-

lated in that *viscus*, and keep it pervious, from whence it returns by the pulmonary veins through the left auricle of the heart, as in the adult, to the left ventricle, and passes onwards through the *aorta* to the arteries, which transmit to all parts of the body. At birth, the lungs being called into action, expand the pulmonary artery, and the blood finding a free passage through them, the *foramen ovale*, and *ductus arteriosus* close.

The UMBILICAL VEIN arises from the *placenta*, and running through the *funis*, enters the abdominal parietes of the fœtus, whence it proceeds to the liver, where it bifurcates; one division entering that *viscus*, the other runs by the *ductus vinosus* directly to the *vena cava* inferior, which it perforates immediately before that vessel enters the right auricle of the heart. The *umbilical* arteries are two branches which arise from the *iliaca interna*, run along the bladder laterally to the *umbilicus*, pass through the *funis* and terminate in the *placenta*. These vessels become impervious when respiration is established.

EXAMINATION PER VAGINAM.

This is so essential an operation to the Accoucheur, and one on which so much depends, that I shall give it a succinct prefatory consideration. There is scarcely any period of pregnancy, wherein the medical man is not at times consulted on matters which interest the state of the patient; and his opinion is often demanded when neither ocular demonstration, nor a mature in-

vestigation of symptoms are sufficient to warrant his hazarding a direct assertion. It is by an examination *per vaginam* alone, that he finds himself competent to satisfy the patient's mind, whether she be really with child, or only deceived by such anomalous symptoms as correspond with those attendant upon *utero-gestation*. These suggestions allude to probabilities, and are meant to enforce the propriety of every Accoucheur knowing how to proceed when an examination is necessary, through every period of pregnancy. To ascertain the latter, is not easy till after the fourth month, but during actual labor, that operation is indispensible; and as it is by no means a delicate task, much address is required, aided by a becoming manner, an agreeable language, and a most prepossessing demonstration of tenderness; for, by the mode of proceeding, are our professional abilities appreciated. A concise explanation of the most material points connected with examination, will be appropriate, and a detail of the rules laid down.

The POSITION of a PATIENT during examination, may be either standing or lying, or as the circumstances of the case require; the general method is—1st, For the woman to be lying on her left side—2nd, Close to the right edge, or foot of a bed, and—3d, With her knees drawn up towards the abdomen.

The MODE of PERFORMING an examination—1st, It is right for me here to premise, that a nurse, or some married female should be present, both for the comfort of the woman, and satisfaction of the Accoucheur, whose reputation ought never to be endangered—2nd,

On every occasion, if a patient be lying on a bed, custom inculcates the habit of placing a few clothes over her, as a commendable shew of delicacy—3d, After the Accoucheur has supplied himself with a napkin, and anointed the index finger of his right hand with a little hog's lard, which is preferable to pomatum, to facilitate its introduction along the course of the *vagina*, which may be dry, if labor has not been fully established;—4th, He introduces it under the clothes, till the end ascends to the patient's extremities, and keeping equally in contact with both, guides it immediately to the *vagina*—5th, The operator separates the woman's thighs, and carries his right arm forward to place it in a straight line with the finger, which, with its inside in contact to the internal *vaginal* surface, gets an inch higher by means of the vacancy between it and the thumb—6th, When turned half round, the point touches the *os tincæ*, or entrance to the womb, situated between that part and the *pubes*. This is the way of completing an examination previous to labor, or during the first stage, after which the *os internum*, being more dilated and having descended into the *vagina*, is found with ease. The fulfilment of these rules, which I have attempted to simplify as much as they will admit of, constitutes a *vaginal* examination, and what is always meant by that appellation. It is true, a little dexterity is required, but as practice alone makes perfect, their observance cannot fail, in time, to render the obsteric practitioner competent.

The TIMES PROPER for resorting to an examination, without adverting to those periods in *utero-ges-*

tation, when examination per vaginam may be practised, with a view of giving an opinion relative to a female being pregnant or not; I merely wish to have it understood—1st, That when a practitioner is called to a patient supposed to be in travail, whether her symptoms appear to denote her case urgent or otherwise, it is necessary for him to ascertain her state, that he may know whether he can safely leave her for a time, or whether his presence be immediately required should labor have actually commenced; his intention is to learn the progress it has made, as well as the relative situation of the fœtus; he therefore waits for one of those contractile efforts of the *uterus*, which forces down its contents, and thereby dilates the *os internum* momentarily; this is a time when he is most likely to be satisfied in his enquiries, and therefore, embraces it, to pass his finger up the *vagina*, which is vulgarly denominated trying or taking a pain;—2nd, When the membranes rupture, and the waters are discharging, another and most critical moment presents itself for the medical attendant to examine; because should the presentation be such as to require turning the fœtus, the greater facility of passing his hand through parts already lubricated and dilated, by that gelatinous fluid, the liquor *amnii*.

Information to be Gained by an Examination. During the presence of pain, we ascertain—1st, The accession of labor by its effect on the *os uteri*; and—2nd, The progress it has made by dilatation of the *os internum*, and descent of the presentation. During the absence of pain, we distinguish—1st, The actual

existence of any deformity in the pelvic cavity—2nd, Disease in the generative parts—3d, The position of the fœtus in *utero;* and—4th, The degree to which the *os uteri* collapses; but our judgment is to be guided rather by the dilation of it during, than by relaxation thereof, in the absence of pain.

Motives for a Prompt Examination. It is desirable that an Accoucheur, in full practice, should ascertain the state of a patient early, both by examination and ocular observation; but to induce a compliance with the former, it is right that he should introduce the subject by previously stating some leading questions; as, for example—If regular pains are felt, and where situated. If micturition be frequent. If motions are regular. If shiverings have occurred. If a *nausea* or vomiting be troublesome. If a show or other discharge be perceived. And if the patient be up, he ought to observe her actions and manner of walking; likewise if a subsidence of the abdomen be visible. It is usual to examine at the commencement of a pain, yet it may be done with equal propriety in its absence; but the woman being unacquainted with our motive or its utility, frequently form objections, and many have a cessation of pains on the arrival of the Accoucheur; or a young patient in travail of her first child, from timidity and the presence of the practitioner, will often smother pains to evade an examination, and if the latter does not wait, the former will be delivered alone; when, if the membrane should be over the child's face, it may be unable to respire, and be lost for want of assistance; such cases are frequent; on the other hand, if we wait and

the labor eventually proves spurious, our time is spent, and consequence lessened. To guard against such inconveniences, we should make it a rule to propose an examination, soon after forming the above questions, or hearing any statement of a real or supposed labor;—Represent the propriety of ascertaining the state of the parts concerned, and how the fœtus lies previous to the attack of strong pains; that, in case of a wrong presentation, an early opportunity may be embraced to place it right. Likewise represent that the favourable termination of the process depends much on our knowledge of its commencement; the patient being influenced by those suggestions, perceiving the utility of an early attention, and desirous of an acquaintance with the identity of her state, will generally be both agreeable to, and anxious for, an examination in the absence of pain.

A caution to practitioners in midwifery, of the utmost consequence to introduce before a dismission of the touching subject, guarding them against a syphilitic infection. Never allow the smallest abrasion of the skin about the hand, which comes in contact with the parts of a patient, at examinations, either during labor or at other time. Four midwives, who were in practice in the vicinity of Westminster, died of that disease by inoculation in the hand, during the space of five years.

THE OS TINCÆ AND UTERINE TUMOUR.

The Os Tincæ, during utero-gestation, is closed and turned backwards. In different women its state varies, in some it is thick, soft, and protuberant; in others thin and tubulated.

The Os Uteri at the End of Pregnancy. In some the projecting edges or lips are small, in others large; in many smoothed over or pointed, sometimes obliterated; in numbers who have had children, the lips are a little open at the extremity, but quite close above; in some wide enough to admit the end of the finger, during two or three weeks, in others, a few days before, and often not till labor begins; when, it may be soft, rigid, or yielding.

The Os Internum and Uterine Tumour during labor. In the early part of the process, the mouth of the *uterus*, is generally directed towards the hollow of the *sacrum*, though in some instances with a capacious *pelvis*, the *cervix uteri* descends into the cavity of the former, before dilatation commences; when the anterior inferior part of which, with the fœtus inclosed, is called the *uterine tumour*, whereon the presentation rests. The tumour is broad at the beginning, but becomes narrower as the *os uteri* dilates, untill the latter is completely effaced, the part of the fœtus being naked, or covered with the membranes, occupy the *vagina*, and manifest the state of the labor. The extension of the *os internum* is gradual, but sooner effect-

ed in some than in others, it generally takes a longer space of time in cross presentations than natural ones. Its states, both favourable and unfavourable vary, greatly; but it is remarkable how rapidly an unfavourable one sometimes alters to the most promising; for in some, though the pains have lasted many hours, but little change is evident, whilst in others, considerable alteration frequently occurs in a short time. The dilatation is slower at first, than afterwards, and with prior labors than subsequent ones.

The PERIOD WHEREIN the dilatation of the *os internum* commences often depends on the brim of the *pelvis;* when the latter is narrow, the former takes place at the beginning of labor, but if there be sufficient room to admit the head into the cavity invested by the *cervix uteri,* its opening may not be perceptible till the first stage is effected.

The DILATATION of the *os uteri* in the beginning is of an oval or eliptic form, its diameters agreeing with those of the brim of the *pelvis.*

The PROCESS of NATURE in the dilatation of the *os internum* is two fold. The first is effected by the contraction of the longitudinal fibres of the *uterus* gradually opening the *os uteri,* till the latter receives the membranes containing the waters, which resemble a cone. The second may be subdivided into two powers; first, the continuate contraction of the longitudinal fibres of the *uterus;* and second, the cone formed as above, mechanically pressing against the circumference of the first part of the opening. The cone and dilatation equally increase in size at every pain, until the latter

receives the head of the fœtus, when it is complete. If the membranes rupture early, the whole process is effected by the contraction of the longitudinal fibres alone. The head being received into the *os internum*, the transverse fibres of the *uterus* act with the longitudinal ones in expelling the contents of that *viscus*.

CHAP. IV.

DISEASES OF PREGNANCY.

The effects of pregnancy vary both in degree and combination of symptoms, according to idiosincracy of constitution, or acquired susceptibility of different organs.—1st, The gravid *uterus* exerts an influence over other organs, through the medium of sympathy, either by direct or secondary means, as is evident by irritation being transmitted; first to the stomach, and then to the head, &c.—2nd, It may produce changes in any of the other viscera, as by the pressure of its bulk is found mechanically to excite—3d, Pregnancy produces effects in the general system, marked often by a degree of fever, and always an altered state of the blood—4th, In some a salutary change is effected in the system, productive of benefit, so that the woman may enjoy better general health during the period of *utero-gestation* than at any other time—5th, There is a diversity not only in the effects of pregnancy, but also in the periods at which they manifest themselves; in some, commencing very early, relief is often obtained after quickening; others experiencing very little inconveni-

ence till near the conclusion of *utero gestation*, when, by the enlargement of the *uterus*, the function of the abdominal *viscera* are disturbed—6th, Many troublesome symptoms are excited by pregnancy, which, strictly speaking, cannot be removed, though by treating them as circumstances indicate, temporary relief may be afforded, but—7th, When unfavourable symptoms proceed to a great extent, and are the exciters of painful affections, which tend to disturb the general system, they are ranked with, and treated as diseases of pregnancy.

Swelling of the Legs, during the process of *utero-gestation*, proceed from a temporary mechanical obstruction of the larger trunks of the lymphatic absorbents in the *pelvis*, as they pass on from the inferior extremities through that cavity to the *receptaculum chyli*.

Varicose State of the Veins often occur during the period of *utero-gestation*. They are occasioned by pressure of the *uterus* on their trunks, impeding the return of blood to the heart, which having to ascend against its own volume; independant of this superaditional obstruction, it is compelled to take a passive retrograde course, and by being pressed upon the *valves*, situated at certain distances in the vessels, insinuates itself between their semi-lunar surfaces, thereby producing such enlargements as not unfrequently bursts, and cause considerable *hemorrhage*. Should this occur during parturition, the mode of treatment consist in the application of compress and bandage, at

the same time enjoining quietude, and a recumbent posture.

Hæmorrhoids or Piles are a turgid state of the hemorrhoidal vessels, situated within the *rectum*, and about the *verge* of the *anus*, particularly inimical to pregnant women, especially near the period of quickening. They are produced by various causes; occasional irritation of the patient during the pregnant state; the use of aloetic purgatives, and mechanical pressure of the *uterus* in the cavity of the *pelvis*, upon the hemorrhoidal veins, impeding the return of blood, and thereby forming tumours of various size and shape. Those situated about the *anus* frequently become strangulated by the action of the spincter muscle, and burst, which affords transient relief. When hemorrhoids are troublesome, leeches may be applied to the verge of the *anus;* after which cold saturnine lotions, and restringent ointments may be used; likewise keep the bowels perfectly free, by means of an electuary composed of proportionate quantities of *Sulphur, Præcip. manna, Ol. amygd. Dulc. and conf. Sennæ;* if these means fail, their cause depending on the pressure of the *uterus*, and the tumours are particularly troublesome, they are to be supported by means of bandage till after delivery, when the cause will be removed and the effect gradually cease.

Cramp of the lower extremities is sometimes an attendant on pregnancy. It arises from pressure of the *ischiatic* nerve at two periods, the one a little previous to quickening, the other, when cramp seems

most distressing, is shortly before delivery. In these cases but little relief can be given till the exciting cause be removed; but as it is imperatively required for the medical attendant to be doing something to amuse the patient, he may order the affected limb to be rubbed occasionally with a liniament of the gently stimulating kind, or apply friction with flannel or a warm hand.

PROLAPSUS and PROCIDENTIA UTERI; by the former is meant the descent of the *uterus* into the *vagina;* and by the latter, the protrusion of that *viscus* through the aperture of the *pudendum.* These are known from an inversion of the *uterus;* the *os internum* being readily distinguished. The *prolapsus* and *procidentia* must be returned to their natural situation with the operator's hand, previously emersed in cold water; a little manual dexterity in most cases will suffice; but the position facilitates the operation; the woman should be directed to rest on her knees and elbows, and after the replacement, a recumbent posture for several days should be observed.

PROLAPSUS VAGINA is the inversion of its internal surface, so as to project downwards, in a similar manner to the *prolapsus uteri,* from which it is known by the *os tincæ* being discoverable above the tumour. The treatment of *prolapsus vagina,* differs in nothing from that of the *uterus.* These diseased affections of the parts, are usually referable to the inconvenience of—1st, A capacious *pelvis,* (or to great relaxation consequent upon)—2nd, *Fluor albus*—3d, Inordinate indulgence in venery—4th, Frequent pregnancies; or—5th, Early

fatigue after labor, before the parts of generation have recovered their tone.

Prolapsus Ani is the protrusion of the *rectum* through the *anus*, so that its *villous coat* becomes everted, and forms a vermilion-coloured tumour; frequently arising from—1st, Relaxation of the sphincter *ani*, and—2nd, Weakness of the surrounding parts—3d, Aggravated by costiveness—4th, *Diarrhœa*—5th, *Tenesmus*, and—6th, Hard labor. After being returned by the hand, previously emersed in a cold astringent lotion, it may be supported by the T bandage applied over a compress, and the occasional use of the *decoctum querci*.

Retroversion of the Uterus, is when the *fundus uteri* becomes displaced, and turned backwards and downwards upon its *cervix*, so as to rest upon the *rectum*, and turn the *os uteri* towards the *pubes*. This disease is liable to occur from the inflexion of the *peritonæum*, between the *vagina* and *rectum*. But it is generally produced by a fulness of the bladder, or retention of urine, consequently attended with much pain; the bladder rising up towards the *regio-umbilicalis*, elevates the *uterus*, and draws it from its place by means of the *peritonæum*, which is firmly attached to each of those *viscera*. This complaint is easily distinguished—1st, By examination per vaginam, will be perceived a large tumour, occupying the inferior part of the cavity of the *pelvis*, pressing the *vagina* towards the *pubes*—2nd, *Examination per anum*, the same tumour may be felt pressing the *rectum* to the hollow of the *sacrum*; and—3d, By making both inspection at

the same time, we may readily discover the tumour, confined between the *vagina* and *rectum*. *Retroversio uteri*, is only liable to occur from the third to the fourth month of pregnancy. When the *uterus* is but little enlarged, or after it attains a certain size, it cannot be displaced; in the former case, the weight of the *fundus* is wanting to produce it, and in the latter, because by a few months enlargement to impregnation, the *uterus* has arisen from the cavity of the *pelvis* into that of the *abdomen*, where the anterior convex surface of the lumbar *vertebra*, and superior projection of the *sacrum*, give it durable support. In the treatment, as the pressure, which the *rectum* and *vesica urinaria* sustain, must necessarily impede the due performance of their office, we are to assist, by enemas, or aperient medicines and the catheter, ere a replacement of the tumour be attempted. Although in many instances as pregnancy advance, and the patient guarding against a full bladder, the *uterus* spontaneously regains its natural position, by the gradual exertion of its own powers or by suiting itself to the changes which the parts progressively undergo; so that if a practitioner is consulted in time to pass the catheter, he is not solicitous about the event. Yet, he is often required to exercise his dexterity and skill; therefore he attempts to return the *fundus uteri* to the position it has lost, by placing the woman on her knees and elbows, passing several fingers up the *vagina*, and at the same instant, conveying two fingers up the *rectum*, with a view of elevating the tumour, beyond the projection of the *sacrum*; but the length of the latter,

and that of the *os coccygis*, when compared with the shortness of the operator's fingers, frequently renders this operation difficult and unmanageable.

Fluor Albus, *Leucorrhœa*, or Whites, is a *mucous*, or sanious secretion from the *vagina* or *uterus*, denominated *Menorrhagia Alba*; it indiscriminately attacks women not only in *utero-gestation*, but when that state does not exist. It cannot be strictly classified as a disease of pregnancy; however, as it appears to be often induced by the latter, I thought fit to give it a place. The discharge, though sometimes mucous and profuse, is now and then of a glary and translucid aspect, of a viscid tenacious consistency, and small in quantity, so much does it vary in degree and kind from a simple increase of the natural mucus of the parts, to that of a purulent or acrid nature; the first is not esteemed a disease, unless excessive. It is the most frequent complaint to which women are liable, and may be a symptom of some local disease, or the consequence of constitutional debility; when profuse, it occasions great weakness. In many it indicates disease in the *uterus* or neighbouring parts, particularly when copious in quantity, offensive in smell, or acrimonious in quality; more especially about the time of the cessation of the menses, and produce a train of troublesome affections; febrile excitations, depraved appetite, disturbed functions of the *chylopoietic viscera*, irritability of the general system, painful heaviness about the loins, &c. In the treatment, aperients, tonics, balsamics, bark, and steel, may be occasionally given; in some, gentle emetics, are useful, by cleansing

the *primæ viæ*, and producing a sort of metastasis of the fluids from the inferior parts, and by exciting the powers of the constitution to more vigorous action; but pure air, moderate exercise, generous diet, and regular living, are most beneficial. Should the complaint continue after an amendment of the constitution, various restringent injections may be tried. The most effectual is the decoctum granati, with a proportionate quantity of Sulphas Alumen and Zinci Sulphas, used several times a-day.

Painful Affections of the Bladder are frequent. They arise in common with the pathological phenomena of the parts during *utero-gestation;* most frequently from pressure of the gravid *uterus*. In some females incessant micturition, or desire to pass the urine, which comes away in small quantities, affording trancient relief is an attendant; in others, inflammatory symptoms appear, characterized by their plethoric indications; a full strong pulse, head-ach, insomnulescence, &c.; and in others, a suppression of the urine. The most judicious plan of treatment consists in depleting the vascular system, by means of the lancet, and exciting a determination to the bowels; the liberal use of diluents, also *opiate emolient enemas*, an abstinence from spirits, wine, and animal food; confinement to a vegetable and farinaceous diet, &c.—But if a suppression of urine is manifestly the principle, the catheter must be had recourse to.

When the latter is employed, it is to be done under the bed-clothes, the practitioner has no ocular per-

ception of parts, but must rely upon his anatomical knowledge of the generative organs, to pass it up the *meatus* with adroitness, as follows—1st, If the patient be in bed, it is needful she should be placed on her back—2nd, With the knees elevated, and separated from each other—3d, The operator standing on the right side of the bed, with his back towards the face of the woman—4th, Passes the index finger of his left hand between the *labia magna*, and feels for the *clitoris*, which serves for a leading mark—5th, Then carries it downwards about an inch, between the *nymphæ*, where it meets with a small elevation, immediately under the *pubic* arch, and above the *vagina;* in the centre of this is a circular entrance into the *urethra*—6th, With the finger resting under this prominence, the catheter is to be guided upon it, by the right hand, and—7th, Gently pass it up the *urethra*, which is about an inch in length, into the bladder. By this mode the bones forming the symphysis *pubis*, prevents the catheter sliding upwards, and the operator's finger arrests its insinuation into the *vagina*.—When the water requires to be evacuated, as may be the case during the progress of labor, if the head of the fœtus has entered the cavity of the *pelvis*, the *urethra* being pressed close to the symphysis.—the flat catheter should be used and introduced parallel thereto, at the same time the head of the fœtus must be raised a little.

STONE in the KIDNEY or BLADDER is not of unfrequent occurrence during the period of *utero-gestation*, and at the time of labor, but cannot be consi-

dered a disease of pregnancy, though where it does exist, is more likely to be noticed during that state. A knowledge of the anatomy of the urinary organs, suffices to satisfy us, that women are not so liable to stone in the bladder as men, from the shortness and dilatability of the *urethra*, affording facility to the escape of a *calculus*, during the act of passing urine. Concretions, however, in the kidneys may prevail as much with females as the other sex, though it is sometimes difficult to distinguish nephritic complaints from pains in the loins produced by pressure of the *uterus*; either case admit of bleeding and aperients. Occasionally, however, there may be one or more actually in the bladder during delivery; and when that occurs, parturition will not only be painful but dangerous. If a stone be in the neck of the bladder, between the symphysis and head of the fœtus when the latter is in the cavity of the *pelvis*, the pressure is liable to produce such inflammation as often terminate in gangrene and sloughing; whereby an opening may be formed into the *vagina*, through which the urine must ever after dribble, and excoriate the parts, unless an elastic gum catheter be always worn. Sometimes the sloughing takes place in the fore-part of the bladder; the urine then becomes extravasated in the abdomen and proves speedily fatal. A knowledge of these direful effects suggest the propriety of adopting the most judicious management on the part of the attendant; and this consists in elevating the *calculus* from the neck of the bladder, and supporting it with a sponge, similar to

the mode recommended for protecting the *funis*. The success of the operation depends on the descent into the cavity of the *pelvis*, which possibly the head may be large and too low, when the disease is discovered. In all cases where the urine does not pass freely and at proper intervals, especially if there be tenderness of parts, we must draw it off to prevent distention.

The VARIOUS SPECIES of HERNIA are troublesome; but much more so when they occur during the state of pregnancy, especially that in which a portion of the bladder passes down into the *vagina*. If the protruded part be perceived during the progress of labor, it may be mistaken for the membranes, as this specie of *hernia vesicalis* is ascertained by its protrusion, when the bladder is full, and recession upon the urine being voided; which latter, should often be encouraged during labor. Sometimes relief may be given in supporting the *hernia*, by the introduction of a globe pessary, or sponge, and paying attention to the regular evacuation of the urine. Permanent relief, however, is seldom effected.

AFFECTIONS of the HEAD. I have before observed that sometimes the brain sympathizes with the *uterus*, but to define how, or through what medium that sympathy is conveyed would be exceedingly difficult; there is however another affection of the cerebral organs, occuring during pregnancy, that admits of a more facile explanation; it appears to be nothing more nor less, than a distention of the vessels of the head, disturbing the functions of the censorian, and arising

from an obstruction to its distribution to other parts, especially to the inferior extremities, and lower parts of the trunk, by compression of the *uterus;* and are characterized by all the distinguishing signs of a plethoric state of the vascular system; as head-ach, giddiness, throbbing of the temporal arteries, drowsiness, somnulescence, and other vertiginous symptoms. The treatment in these instances consists in a judicious depletary plan; by the occasional use of the lancet, and frequent administration of saline cathartics.

AFFECTIONS are frequently to be noticed in the chest, attended by difficult respiration, and a train of disturbances the *thoracic viscera* are susceptible of. They arise from causes not dissimilar to the former, and require a similarity of treatment.

FALSE PAINS. Women near the end of *utero-gestation* are liable to periodical pains, which affect the *uterus* in a way similar to, and resemble expulsatory efforts; therefore, they frequently deceive the female who is under their influence; the Accoucheur, however, who has had sufficient experience to direct his judgment, readily distinguishes such pains as are evanescent, from those which are attendant on the actual accession of labor, by their situation, irregularity, and duration; but as mistaking them may be productive of serious events, the following rules are adopted as a more decided mode of ascertaining them—1st, If the uterine tumour be not in the cavity of the *pelvis*—2nd, If during the continuance of pain there is no tension of the *os uteri*—3d, If there is no pressure upon, or—4th, Dilatation of the latter, and—5th, If when the pain subsides

there is no corresponding relaxation of it, they are false, although periodical in their return, and in the region of the *uterus*. The latter is acted upon by neighbouring parts, from some of the above causes, which if encouraged its contractile efforts would follow, and premature labor be the consequence. The supervention of false pains is referable to one or other of the following excitements, and as the knowledge of a complaint, usually suggests its relief, I have prefixed remedies where either of them prevail.

EXCITING CAUSES—AND TREATMENT.

If the pains arise from bodily fatigue and spasmodic action of the abdominal muscles;—Enjoin rest in a recumbent posture.

If from agitation of mind.—Quietude from mental exertion.

If from feverish disposition.—Gentle aperients and saline medicines.

If from Costiveness.—Gentle aperients and enemas.

If from *Diarrhœa*.—A full dose of rhubarb, succeeded by opiates.

If from abuse of spirituous liquor, and too free living.—Small doses of calomel, &c. followed by stomachic bitters and regular living.

If from the motion of the fœtus in *utero*.—Nothing more is necessary than a recumbent posture.

If from plethora.—Occasional small bleedings.

CHAP. V.

PARTURITION.

The constitutional changes and local inconveniences attendant upon the pregnant state, having been considered, it now remains for us to describe the corresponding symptoms and varieties of the parturient process, in order to convey a more distinct idea of the self-sufficient powers of nature.

Various opinions have been given respecting the theory of labor, or in other words, the exciting cause productive of those series of phenomena characterizing parturition, and terminating in the birth of a new being. It has been imagined by some that the fœtus in *utero*, is actually concerned in producing its own liberation by instinct, from a receptacle in which it has been too long incarcerated; and others tired with the sophistry of these, have undertaken to theorize upon the subject, and declared themselves satisfied of the fact without exploring the cause; and with Avicenna, an Arabian physician, have exclaimed, at the appointed time labor comes on by the command of God. To form a correct opinion on any physiological point, it is proper when experiment fails, to confer our judgment, that we may have recourse to analogical reasoning, and draw a conclusion from the result of our own experience; in this way must we be regulated in giving a rational definition of the process. Common observation proves to us that prior to the parturient act, some

changes take place in the body—1st, A subsidence of the *fundus uteri*, as can be seen by the altered figure of the abdomen—2nd, The descent of the *cervix uteri* into the cavity of the *pelvis*, forming the uterine tumour—3d, There being a mucous discharge from the *vagina*—4th, The external generative organs being enlarged, relaxed, and protruded—5th, A visible alteration of the breasts, whereby we discern them fit for secretary offices; these are the most evident predisposing causes. We have previously remarked that from a stimulus received at conception, the *uterus* is actuated by a principle of distention, to accommodate its contents till the termination of gestation, when we see that principle superceded by a more active one, that of expulsion. But how, or why this expulsatory action takes place we are at a loss to explain, without we previously suppose, that either the augmented bulk of the fœtus, or some inexplicable excitement irritates the *uterus* to a peculiar action, for the ejectment of its contents, in a way similar to the influence which a vomit excites upon the stomach; this being premised, we comprehend with more facility how the birth of a child is effected, by the numerous contractile efforts of the *uterus*, through the medium of an infirmity of longitudinal and circular fibres, which are assisted in their operation by that musculo tendinous partition between the *abdominal* and *thorasic viscera*, and the muscles of the lower cavity.

Observations on the Period of Labor—1st, It is from the time a change is made on the *os uteri*, till the expulsion of the contents of the *uterus*—2nd, One de-

livery may be completed in less than an hour, another with equal safety, may last many days—3d, It varies not only in different women but in the same persons at successive periods—4th, Although some without any mechanical cause are slow, or expeditious, others are tedious in one, and quick in another—5th, The attack of pain after being repeated two or three times is often suspended, and keeps off a long time, then the process may re-commence and proceed rapidly—6th, The greater number of women do not complain for more than twelve hours, many for a much shorter time, some for not more than an hour, and we frequently find patients delivered in a few minutes, with scarcely any previous sensation—7th, The generality of women seldom send for an Accoucheur more than four hours previous to delivery—8th, The regularity and length of the stages are also various, but it may be observed when a labor is protracted to its utmost extent, the delay takes place chiefly in the first stage, which in most cases occupy treble the length of the second—9th, In general, a first case is more lengthened than a subsequent one, and depends on the facility with which the soft parts dilate after they have been once fully distended—10th, The protraction is attributable to the slow degree of contraction of the fibres of the *uterus*, and to the tardy dilatation of the *os uteri* and *vagina* in consequence thereof.

Symptoms Accompanying Labor; are—1st, Mental perturbation, or fear for the eventual result, which often arises during the first change made upon the *os uteri* at the commencement, and seems to owe

its source from the consent between the *uterus* and the mind—2nd, Rigours, or shivering, resulting from an increased irritability—3d, Strangury, or difficulty and pain in passing the water, occasioned by pressure of the head upon the neck of the bladder ; this is a favourable symptom when not too violent, as it shews a natural presentation—4th, Retention of urine, which often occurs through the neglect of a very essential precaution, viz: that of encouraging the patient to void the contents of the bladder frequently ; if it were done often during the first stage, its retention in the second would seldom require the use of the catheter—5th, Involuntary discharge of urine, caused by pressure on the *fundus* of the bladder, whilst the *uterus* is high in the *pelvis*—6th, Vomiting, or ejection of the food from the stomach, is a sympathetic affection of the dilatation of the *os internum* which re-acts upon the *uterus*, augments the enlargement of its mouth and *cervix ;* whereby, reaching becomes both an effect and cause of dilatation, tending to expedite labor—7th, Frequent discharge of fœces bespeaks a speedy progress of parturition; leaves room in the parts, and teaches us to infer that the bowels are not likely to obstruct the passage of the fœtus, by being loaded with fœculent excretions—8th, Discharges from the *vagina* of a viscid glary mucus, resembling the white of an egg, to be esteemed as a near precursor of delivery, as they are the evacuation of that fluid employed by nature for closing the *os tincæ* after impregnation, till the evolution of the fœtus—9th, As labor advances there is an increased flow of the vaginal secretion, of less tenacity

than the former, produced by pressure upon, and dilatation of the soft parts, which its presence tends to facilitate—10th, The evacuation of a sero-sanguineous discharge, which is termed a *show*, and is a proof of the progressive expansion of the *os uteri*—11th, Cramp of the lower extremities, shows the descent of the head into the cavity of the *pelvis*, by its pressure on the femoral nerve passing through the *ischiatic* and *obturator foramina*—12th, A powerful inclination to sleep, and a copious perspiratory exudation, are the result of excessive pain; unitedly, they tend to relax the soft parts; and the sleep renews the strength of the patient—13th, An acceleration of the pulse both in strength and frequency—14th, Periodical pains, accompanied by the greater number or all of the preceding symptoms in their combined operation, constitute the true criterian of labor; commencing in the loins, then surround the *abdomen* and *pubes*, attack the upper part of the thighs, and extend down the inner sides of the latter; They are often various during the same period, one or two may be strong, and then several inconsiderable ones follow. As their periodical return depends on muscular action, during their intermission, the patient is perfectly well. The intervals between their subsidence and renewal, may be five, ten, fifteen, twenty, and thirty minutes, more or less according to the advancement of labor. Their effects cause them to have two denominations, first grinding, cutting, or dilatory pains, which imply such as occur during the dilatation of the *os uteri*, and frequently occasion the patient to scream out aloud; second, forcing, bearing down, or expulsatory

pains, which are intended to designate such as succeed the abridgment of the *cervix uteri*, and the enlargement of its opening, which induce the female to take a full inspiration, hold her breath, and bear down with all her force. The actions and tone of voice will often express, not only the kind of pain, but even the actual progress and state of labor. The pains are most distressing in the lumbar *region*, whilst the *os uteri* is dilating; likewise, we often find them violently forcing just as the presentation is about to dilate the *os externum*, at which time, they are so vehement, as to excite a lamentable outcry of suffering, and the emergence of the head under the *pubic* arch, is generally the immediate result.

To EXPLAIN the CAUSES of LABOR PAIN, and effects of uterine action. It is observed—That the action of the *uterus*, and pains of labor, are synonymous terms; but the latter is manifestly subsequent to, and the first effect of the former, which is succeeded by dilatation of the *os uteri*, expulsion of the uterine contents, contraction of their connecting vessels, and consequently the suppression of hemorrhage. In describing labor pain, we enumerate two causes thereof, first, the involuntary action of the *uterus*, which tends to compress the contents of that viscus for their expulsion; and second, the local resistance made to their passage, by the parts with which they are surrounded. The pain experienced is proportional to the sensibility of the contiguous parts, and to the strength of opposition. The measure of uterine action is to be estimated by the resistance, which is manifested by the proportionate de-

gree of pain, and the latter is to be understood with tolerable accuracy, by the expressions of suffering made by the patient. If the parts through which the fœtus pass were so disposed to dilate, that they would offer but a weak resistance to the excluding force, a woman would be delivered comparatively without pain.

Observations on Natural Labor.—1st, The facility with which parts dilate, that have been once fully distended, accounts for the first two stages of a prior labor being slower than those in subsequent ones;—2nd, The duration of the process with similar circumstances, varies in different women, and in the same at successive times—3d, In some, during pains, dilatation of the *os uteri*, distention and protrusion of the membranes evidently increase, and the latter, recede as the former diminish—4th, In others, though the head be above the perinœum, if the *involucra* gives way, it will be delivered in a few seconds—5th, With many, the bag breaks, and the head occupying the cavity of the *pelvis*, the waters retained above, are discharged in a large gush after the child is born—6th, In some after the membranes burst, if the liquor *amnii* ooze away, with increased intervals between the pains, the labor will be protracted—7th, In others, when the pains are strong with a thin soft *os uteri*, we expect a speedy termination, but their irregularity and suspension taking place may foil our expectations—8th, During the process, the mind has influence over the *uterus*; hope and confidence increase its action; fear and dread retard it;—9th, The *cervix uteri*, with the head of the fœtus in-

closed, and descended into the cavity of the *pelvis*, constitutes the uterine tumour; which, as the *os internum* dilates, becomes diminished in its breadth;—10th, We often observe a change take place during labor at the sixth, twelfth, or twenty-fourth hour after its accession—11th, Should the *uterus* descend very low before the *os uteri* begins to dilate, there will be a specie of prolapsus, and delivery protracted—12th, In the first stage, the head may lie diagonally in the upper cavity; if the finger touches the sagittal suture, and is, by guiding it in the corresponding diagonal direction, led to the posterior fontanel, the presentation is favourable; and *visa versa* if led to the anterior—13th, After protracted labor, patients generally recover better than after quick ones, unless it has been interfered with—14th, The farther parturition is advanced before the membranes rupture, the safer it terminates; there is less stress upon the parts, whilst they acquire a disposition to dilate—15th, Protraction of the first three stages accelerate the fourth; and contrario—16th, In forming our opinion on the duration of the process, we should be influenced by the state of the *pelvis*, by that of the *os tincæ*, by the strength of pains, and by our knowledge of the patients former labors—17th, When the *pelvis* is capacious, the head passes through its cavity without change of shape; but when the former is contracted, the figure of the latter alters accordingly—18th, The pains increasing in frequency, severity, and duration, accompanied with corresponding dilatation of the *os uteri*, and descent of the head, mark a speedy travail—19th, During the early period,

on the cessation of pains, is perceived a retraction of the presentation, owing to the *uterus* becoming passive; it demonstrates that the action of the latter excites the former—20th, And in the second period, on the subsidence of pains, is observed an additional descent of the fœtal head, induced by a re-action of the *vaginal* parts—21, When the waters are not discharged till the head is emerging under the *pubic* arch, proves the labor to have been natural and uninterrupted. These observations, it is presumed, will convey a tolerable correct idea of the parturient process.

CAUTIONS.

Whilst we contemplate the wisdom of the Deity, and estimate His all-sufficiency by the profundity of His works, it turns to consider the process of parturition. The native endowments which He has bestowed are so truly excellent, that they supercede all the resources of art. The Accoucheur, then, should be considered as an observer of nature, and ought ever to go hand in hand with her design—whilst those powers are active. When midwifery became laid down according to rule, and its philosophy but little understood, the profession was exhausted in discovering ingenious modes to accelerate labor, or in other words, to counteract nature;—and this manner of conduct has been productive of incalculable evil. That the resources of the constitution are adequate to natural parturition without coadjuvancy, is a remark as old as it is true; and we have only to refer to holy writ for its verifica-

tion. The Hebrews in Egypt were left to nature in their travail; and we have no instance on record to prove that it was not short, easy, and safe. Women in extremity call for relief and expect the practitioner to assist them; but no entreatise are to induce us to accelerate any part of natural labor: it is proper always to show attention, especially in protracted cases, by soothing language, or by introducing the finger just within the *vagina* now and then, during the second stage, to amuse the patient and compose her mind; but, actual interference retard delivery, by removing the secretion, changing the position of the fœtus, or inflaming the parts of the mother. Artificial dilatation of, or an attempt to slide the perinœum over the forehead or face, endanger its laceration.

Preparation of Parts for the Evolution of the fœtus. Invariably, during the process, the external generative parts are uniformly clothed by a mucus of their own secretion, to fit them for dilatation, preparatory to delivery; in our examinations we should be careful not to remove this covering, as no substitute can be formed equal thereto.

Causes of Laceration of the Perinœum,—1st, The tenderness and delicacy of the perinœum, subjects it in common with other vascular parts, to inflammation, which is often caused by the early and injudicious interference of midwives; the consequence of which is, generally, its laceration when put upon the stretch—2nd, The position the patient is placed in during the emergence of the fœtal head, I have often thought, renders that accident more likely to occur;

the custom of this country, is for the process to be effected on the left side, with the knees of the patient drawn up, which projects the presenting part in a line unfavourable for the perinœum, if placed on the hands and knees, or the latter and elbows, it would be more natural, which are positions often instinctively adopted by women before they have imbibed the mode of custom; then the part presenting by its line of gravitation, lessens the pressure upon the *perinœum*—3d, Disturbance of the order of a labor, every change made in the *uterus* is successive, and every pain has two effects, dilatation of some, and preparation of other parts; if by hurry the head is brought in contact with such as have not acquired their dilatability, or if by artificial extension, we attempt to supply any apparent difficiency in the natural, the parts will sooner lacerate than dilate properly—4th, Exertion of voluntary force, the *perinœum* is not lacerated because the head of the fœtus is large, or passes in a particular direction, but because it passes too speedily, it therefore rarely happens in very slow labors—5th, After the expulsion of the head, the hasty extraction of the body; likewise when the latter is done regardless of the direction of the *vagina*—6th, The incautious use of the forceps; neglecting to depress the blades on the *cranium*, during its passage through the *os externum*.

Mode of Protecting the Perinæum. It is never on the full stretch till the *vertex* and a great part of the fœtal head has descended under the arch of the *pubes*, we may at that time use a moderate and uniform degree of pressure on the *ossa parietalia*, inclining them to

each other, and the posterior fontanel towards the *pubes*, in imitation of nature; though this assistance is seldom necessary.

Injury of Hot Clothes to the generative parts. In a state of nature this custom is unknown, but in society it is common; women being unacquainted with the use of the mucus; the higher the sphere patients fill in life, the more prevalent is this attention; and now the practice is so general that nurses frequently apply hot clothes to the external parts without being desired, and they are expected to keep napkins heated for that purpose. The discharge is copious during the second stage when its properties are most beneficially disposed to prepare the soft parts for the safe and easy advancement of the head. In protracted parturition pressure increasing by the presenting part of the fœtus internally, and hot linen absorbing the mucus externally, induce a principle of irritation instead of dilatation, so as to cause inflammation of the *urethra vagina*, or *perinæum*, and endangering a laceration of the last. When the discharge is considerable the patient should lie down, that being the best means to evade inflammation, and promote relaxation. From the time the fœtal forehead presses on the *rectum* by a law of nature, the external parts are covered with their mucus, till the child is delivered, unless absorbed by unnecessary attention of attendants, or removed by handling or applying clothes to protect the *perinæum*. When protection of the latter is necessary, it should be done by a more eligible mode of practice, namely, without touching it. Therefore women in a state of nature and

such as avoid interfering with the economy of the parts, have safer travail than those of refined society.

On Expulsatory Pains. By the degree of pain conjoined with other circumstances, is a patient actuated during labor. It is observed, that whilst the *os uteri* is dilating, the pains are sharp and cutting; consequently, she is spontaneously excited to cry out, and during the expulsion of the head, is either necessitated to scream, or if she be of a strong robust habit, may be silent, by retaining the breath to bear down with all her strength. The latter are directions almost universally but improperly given by midwives; as to those with delicate habits, tender irritable or rigid parts, crying out affords relief, by diminishing the bearing down efforts and giving the parts due time to acquire their natural dilatory action, which may prevent—1st, Breaking the membranes prematurely—2nd, Exhaustion of the patient's strength—3d, Laceration of the *perinæum*—4th, Rupture of a blood vessel, or—5th, Descent of the *funis* below the head. These evils are not imaginary, as I have been frequently consulted in cases where they occurred from forcing efforts. During parturition, women will always act properly if influenced by their own feelings only, therefore, they should never be biassed by others.

Cautions during the latter two stages. The right hand of the operator is to be introduced under the clothes (as the patient is never to be uncovered during labor) and let the head rest thereon, till succeeding pains detrude the shoulders and body, which are to be supported on the left; and the child kept in the vagi-

nal direction till additional pains complete its delivery. If the action of the *uterus* is uninfluenced by art, its contraction will be regular from the *fundus* downwards, separating and expelling its contents gradually; but the premature extraction of the child or *placenta* may cause spasmodic contraction.

CONDUCT TO MAINTAIN THE CONFIDENCE OF THE PATIENT.

1st, Pay immediate attention to messages till an accurate state of the case is ascertained; afterwards we may act discretionally, according to the anxiety of the person, or by our knowledge of her condition—2nd, Wait not long in the lying-in room, unless attendance is absolutely necessary, as it conveys an idea to the woman that her delivery is nigh at hand—3d, In the first stage, we should never acknowledge a patient to be in labor, especially, if it is her first pregnancy, as the parts dilate more slowly than in subsequent ones; for when persuaded that parturition has actually commenced, they become restless and anxious for its eventual consequences—4th, During the process, they are solicitous to know its state and duration, it is proper to satisfy them with an opinion respecting the safety of its termination, but by no means to prognosticate its duration—5th, In tedious cases, we are not to appear tired or embarassed, for our very countenance and looks are noticed—6th, Recommend patience, as dilatation is a work of time—7th, As strong exertions in the early

stage exhaust the patient's strength, she should be restrained from using any, especially in slow delivery—8th, Voluntary exertion is never proper, although accompanied with a completely dilated *os uteri*, and regular bearing pains—9th, In protracted labor, where the patience of the female is exhausted, some simple medicine should be had recourse to, every four, six, or eight hours, so as to gain time without the woman being aware of the intention; and with an expectation of the salutary effect of the composition, her exertions are suspended, if examined between each dose and pronounced better, it will encourage her to persevere in its use; thus, the practitioner gains considerable time, unnoticed by the patient when the former can truly pronounce the latter better, she being so much nearer delivery.

MANAGEMENT OF LABOR.

In a state of nature the process is conducted with little ceremony; but the refinement of society have established the custom of making considerable preparation; however, the following particulars are necessary—1st, When the bed is made in the ordinary way, a sheet folded twice is to be laid transversely over the bottom sheet, with a tape of sufficient length attached to each corner, so as to allow it to be fastened to both sides of the bed-stead, for the reception of the patient when she is sufficiently recovered to be removed thereto after delivery, care having been taken to keep it clean and dry—2nd, A skin of leather is to be laid upon the right

side of the doubled sheet over which a blanket folded in four, above the latter, place one end of a sheet folded twice lengthways, these are to remain under the breech during labor, and the other end of the latter is to hang over the right side of the bed convenient to lay on the practitioner's knees, when necessary—3d, The right side of the upper bed-clothes are to be turned over upon the left, in readiness to cover the patient when she lies down—4th, She should be dressed in a clean shift, a broad banded skirt, and night-gown, which are to be turned up round the waist, and the foul clothes brought down to remain on the breech and lower parts, during delivery—5th, A nurse and one female are sufficient attendants, a greater number tending to create confusion—6th, Frequently female friends call to see a patient, particularly in tedious cases; I must here remark that during the stay of many gossips, injurious advice is often inculcated, improper management soon adopted, and the woman, being in pain, with her mind in a state of distress, is equally soon alarmed; attendants should, therefore, scrupulously avoid the relation of critical cases, or alarming events respecting other persons; whispering is equally improper in a lying-in room, it indicates concealment, and when added to the above improprieties, are likely to depress the spirits, as also to diminish confidence, and interrupt the conduct of the patient; all of which tend to disturb the functions of the *uterus*. Natural and safe labors almost universally occur, under prudent management; therefore, none else should be adverted to in the hearing of any woman in travail—7th, Preparatory to

the birth of a child, should be in readiness, vinegar, flannel cap, square piece of flannel for a receiver, pair of scissars, two-thread ligatures, hot and cold water, soap, sponge, rag, flannel belly-band, pins, and the child's clothes—8th, During the early stage of labor, a second examination is unnecessary, if the presentation is found by the first to be natural, but in the succeeding stage, the frequency of that operation, should be proportionate to the apparent rapidity of the process—9th, Keep the bladder and rectum empty—10th, A round towel fixed to the side or post of the bedstead, may be convenient to hold, in order to keep steady during expulsatory pains—11th, When the dilatation of the *os uteri* is considerable, and the vaginal secretion become profuse, it is advisable to lie in a recumbent posture; and the propriety of a light covering should be suggested—12th, A woman may be delivered any way most convenient to herself, or suitable to the exigence of the case, either as for instance—Whilst kneeling on a cushion. Resting on her hands and knees, or the latter and elbows. In a sitting position. Lying on the back, or on either side;—but on the left side, with the knees drawn up towards the abdomen, is the mode usually adopted in this country—13th, We should manage patients with professional propriety, keep them as near to a state of nature as the custom of society admits, and allow due time after the birth of the child, for the change from fœtal life to that of respiration—14th, During its passage through the external parts, it is a rule to separate the knees of the patient, this is more necessary with corpulent than delicate women;

frequently we find they do it by instinct, but many children are delivered equally safe, with the knees of the mother close—15th, Immediately upon the child being born let a flannel cap be put on its head to prevent taking cold; and when the *funis* is divided, wrap the infant in a flannel receiver ere you present it to the nurse—16th, The hand of the operator should now be applied to the *abdomen* of his patient, to ascertain whether there is another child; should that be the case, the fact will be proved by a continuance of the abdominal rotundity, but if not, the muscular parietes will be flaccid to the touch, and the contracting *uterus* readily distinguished, inclining by the gravity of its *fundus*, towards the left side.

EASY LABOR.

In languid and debilitated habits, if the *os uteri* be thin and yielding at the commencement, and is accompanied with a capacious *pelvis*, small expulsatory efforts may complete the process; under such circumstances, the parts readily dilate, the contents of the *uterus* descend with slight pains, and parturition is effected in a way similar to the following descriptions;—1st, If the *os uteri* dilates during the early stage, and the *cranium* being of a moderate size, descends to the *os externum* before the membranes rupture, it may be expelled without perforating them; by which, part thereof will be torn from the rest and envelope the head, usually denominated a caul—2nd, The membranes

may be lacerated all round from the edge of the *placenta*, and the child delivered with its head and shoulders invested in them, called the *King's hood*;—3d, If the fœtus be small, and the secondines separate from the *uterus* early in labor, they may be expelled entire, containing the fœtus *funis umbilicalis* and liquor *amnii;* all of them when so inclosed receive the appellation of the *ovum;* which should be opened, and the hood or caul removed, to allow of immediate respiration. A superstitious idea prevails, that if the hood or caul is preserved the child cannot be drowned. The method of preservation consists merely in greasing a sheet of white paper, and thereon expanding the membrane.

PREMATURE LABOR.

By this distinction is meant, the bearing of a child in any of the last three months of *utero-gestation*, and before the period of nine months is completed. It is, consequently, a medium between natural parturition and abortion. The cause of premature delivery is whatever excites the action of the *uterus*, and may be pre-induced by—1st, The death of the fœtus in *utero*—2nd, Evacuation of the liquor *amnii;*—3d, External accidents;—4th, Violent exertions;—5th, Various passions of the mind;—6th, Abuse of spirituous liquor; and—7th, Acute diseases, as for instance, the small pox, which, when it occurs during pregnancy, almost invariably proves fatal. These causes may be strengthened by such as change the natural state of the system

as plethora, debility, or irritability. A tendency to premature labor may, in some cases, be mitigated, and even prevented, when early attended to;—1st, By tranquilizing the mind—2nd, Rest in a recumbent posture;—3d, Bleeding, if the pulse admits;—4th, The administration of aperient medicines, if necessary;—5th, Cold applications to the external generative organs, and lower parts of the *abdomen;* and,—6th, Attention to urgent symptoms.

The SYMPTOMS of APPROACHING PREMATURE LABOR, are—1st, Shivering;—2nd, Diminution of the breasts;—3d, Subsidence of the abdomen;—4th, Cessation of the motion of the fœtus;—5th, Suspension of the symptoms of *utero-gestation;* and,—6th, Irregular pains.

The EXPERIENCE I have had in these cases emboldens me most strongly to enforce the necessity of avoiding interference to facilitate the process, which, though tardy in its course, I always find it terminates happily (at least independant of constitutional causes) and proceed in a way similar to the following descriptions;—The first stage is necessarily tedious, from the slow dilatation of the *os internum* and abridgment of the *cervix uteri*, which latter, is commensurate with the distension that part of the womb undergoes. The second and third stages are proportionately rapid, from the small size of the fœtus. The fourth stage is tedious, from the disposition of the *placenta* and membranes to adhere to the *uterus:* The *decidua* being thicker pre-disposes to hemorrhage. The *uterus* is more liable to spasmodic action and other morbid affec-

tions during premature child-birth, than when that effect occurs at the accustomed period.

SOMETIMES it is necessary to bring on labor before the expiration of the full term of *utero-gestation*, in order to facilitate the passage of a fœtus before it gets too large to pass through the cavity of a narrow or deformed *pelvis*, and this is done from a conviction that, if pregnancy be suffered to proceed till the termination of the ninth month, the act of child-bearing must not only be replete with danger to the parent, but attended with inevitable destruction to the infant. The operation is seldom attempted before the conclusion of the seventh month at least; for all hopes of saving the child till it has been in the *uterus* that time, will be manifestly abortive, and even then, its future life precarious.

When DELIVERY is DETERMINED on, the mode of obtaining it is as follows;—1st, Pass a small catheter through the *os uteri*;—2nd, Carry it gently about eight inches up, on either side of the *uterus*, between its internal surface and the membranes;—3d, A little pressure with the extremity of the instrument lacerates them, which will be perceived by liquor *amnii* passing off through the tube;—4th, Then gradually and carefully withdraw the instrument; afterwards labor may commence from the second to the fourth day, sooner or later. When the process of *utero-gestation* is stopt it cannot be restored; and when the action of the *uterus* is brought on, it cannot be arrested by any human means till delivery is accomplished.

OBSERVATIONS PREVIOUS TO LABOR.

When students have been present at one natural case in company with an Accoucheur, for illustration, they generally feel sufficient confidence to attend afterwards alone, and will be fully competent for it; if a uniform attention has been paid to, with a full sense and recollection of, the heads of the proceeding lectures, which, for the sake of perspicuity, and to refresh the memory, I shall re-advert to some of the principle ones;—1st, The parts concerned in *utero-gestation* and parturition;—2nd, The progress of the head through the cavity of the *pelvis*;—3d, The causes and pre-disposing causes with the changes preparatory to, and symptoms accompanying labor;—4th, The kinds of pain, the influence of expulsatory pains, and rules to distinguish such as are false;—5th, The various cautions against interfering;—6th, The use of the vaginal secretion;—7th, The protection of the *perinæum*:—8th, The various states of the *os tincæ*, with the commencement, form, and means, of its dilatation;—9th, The occasional introduction of the finger up the *vagina* during the second stage of labor, to ascertain its progress;—10th, The reception of the head on the right hand, at the close of the last-mentioned stage,—11th, The supporting of the body, on the left hand, and guiding the child in the vaginal direction during the third stage.

OBSERVATIONS DURING PARTURITION.

The following remarks are suitable and necessary for the student to form:—Throughout the progress of child-birth, opportunities are afforded of gaining much useful knowledge, and a vast deal of practical information, which is conveyed principally by observing the succeeding particulars;—1st, The frequency of pain, showing the state and advancement of the process;—2nd, The strength and kind of pain, by the actions, cries, moans, or groans, of the woman;—3d, The manner of arranging the bed, and of adjusting the patient's clothes, preparatory to delivery;—4th, The list of necessaries required to be in readiness previous to the birth of a child;—5th, The manner of examining patients;—6th, The parturient symptoms and positions;—7th, The Accoucheur's mode of conduct during labor;—8th, The reception of the child;—9th, The application of ligatures to the *funis*, and the division of the latter;—10th, The washing and dressing the child;—11th, The management of the *funis* remaining attached to the *umbilicus*;—12th, The expulsion of the *placenta* and membranes;—13th, The removal of them, together with the *coagula*;—14th, The proper application to the generative parts;—15th, The mode of ascertaining twin cases;—16th, The manner of placing the patient in bed, after delivery, and—17th, The directions given for the management of the latter during the puerperal state.

CLASSIFICATION OF LABOR.

PARTURITION is divided into four classes:—NATURAL, PROTRACTED, PRETERNATURAL, and COMPLEX. The first two admit of no division;—they may be accomplished by the efforts of nature, yet we find there are such, especially the second class, wherein instrumental relief is frequently employed, but the necessity for it, is generally caused by the early and injudicious interference of female practitioners, (when unacquainted with the all-sufficient powers of nature, if left to her own time), and which deranges the order of labor. The third class, has two divisions; the first is that in which the breech, either of the inferior extremities, or both of the legs present; wherein no professional interference ought to be adopted, as by waiting patiently, nature will complete the process; the second, is that in which a shoulder enters the cavity of the *pelvis*, or an arm emerges through the *os externum*. In this division, manual assistance is sometimes necessary to turn the fœtus; yet it is allowed by the majority of experienced practitioners in the obstetric art, that a woman taken in travail, distant from professional aid, and having an arm presenting, which is, of all others, the most unmanageable, may, if no disease were co-existing, be delivered by the powers of the constitution, that the fœtus would be turned upon its own axis, to facilitate its passage by the contractile efforts of the *uterus*, and come into the world by a breech presentation. The fourth class ad-

mits of four divisions; the peculiarities of which will hereafter be more fully considered, the principle cases of danger refered to therein, are, when hemorrhage or descent of the *funis* below the head occur, the modes instituted for affording relief will be noticed under such heads as illucidate the classes.

CHAP. VI.

NATURAL LABOR.

Having explained the various morbid, and sympathetic affections of the female constitution; the parts concerned in *utero-gestation* and *parturition;* the preparatory changes which they necessarily undergo; the management of patients to the end of pregnancy; the mode of conduct to be observed by the Accoucheur, when his presence is required; and the various cautions during labor; the natural mode of that process, comes in order next to be described.

No one acquires competent ideas of parturition, by theoretical description alone; but, when a correct definition is aided by practical illustrations, its knowledge is readily attainable; and the student who has directed his attention thereto, soon becomes initiated in every branch of the obstetric art.

The term LABOR, is a Latin derivation; and carries the association of toil; hence it has been adopted to signify the act of parturition, or that series of painful

efforts made by the *uterus*, to expel the child, its appendages, and *involucra*.

NATURAL LABOR has certain defined features, which, principally distinguish it from others, and consist in,—1st, The process terminating at the full period of *utero-gestation*;—2nd, Being completed in twenty-four hours from its commencement;—3d, Without the assistance of art; and—4th, The head of the *fœtus* presenting;—the latter is known by its rotundity, bulk, and firmness; and above all, by the fontanels and sutures, which allow the bones riding over each other and diminish the size of the *cranium*.

The presentation is the part of the fœtus which descends lowest. The head descending, forms what is denominated the natural position, which, with—1st, The face inclined to the *sacrum*;—2nd, The occiput towards the *pubes*; and—3d, The *vertex capitis*, in a direct line with the axis of the *pelvis*, constitute the standard one.

The VARIETIES of a NATURAL, or deviations from the standard, termed mal-positions of the head, are as follows;—1st, Is the face inclining to the *pubes* and the anterior fontanel downwards;—2nd, Represents an ear, or side of the head, presenting;—3d, Is the face advancing; and—4th, Shows an arm emerging with the head.

The PROCESS of LABOR has been divided by writers into four stages, which, for a better comprehension, have also their corresponding characters annexed to each.

FIRST STAGE;—At the commencement, the head

of the fœtus is situated in the superior aperture of the *pelvis*, with the diameters of the containing and contained, aproximating to each other, in a corresponding ratio, and the vertex of the *cranium* occupies the centre. The head proceeds in the axis of the superior cavity, and turning round in proportion to its descent, brings the shoulders in a diagonal direction towards the brim of the *pelvis*. If the *os uteri* be sufficiently dilated, the presentation may be ascertained during the descent, the sagittal suture, and posterior fontanel, being easily discovered. The head entering the cavity, the forehead near the hollow of the *sacrum*, the occiput to the symphysis, and the sagittal suture on the *perinæum*, complete this division. The very contracted state of the *os uteri*, and *vagina*, at first impede their dilating action, and the longitudinal *fibres* of the *uterus* only, having power to act in the beginning, render this, the most tedious.

Second Stage:—The head advances in the direction of the inferior cavity. The *os uteri* becomes fully dilated, which forms the uterine and vaginal cavities into one continuous canal; the circumference of the head of the fœtus occupying the inferior part of the former, and superior portion of the latter. The membranes assist in dilating the lower extremity of the *vagina* and *os externum* as they precede the head; though the latter alone accomplishes it, where the former are previously ruptured. The *perinæum* is stretched to twice its natural length; and with the other external parts, form an enlargement called, the vaginal tumour. Whilst passing through the *vagina* and *os externum*, the edge of the *perinæum* is stretched so thin,

that the line of the fourchette can scarcely be perceived where it bounds the head. The latter is expelled from under the former in the following order,—vertex, anterior fontanel, forehead, face, and chin, whilst the occiput is opposed to the *pubes;* which place the head directly between the shoulders, from resting on the breast, and taking a quarter round turn, brings the shoulders to the inferior part of the *sacrum* and *pubes,* which finish the second stage. From the contraction of the longitudinal and circular fibres of the *uterus,* the obliteration of the *os internum,* and dilatation of the *vagina, os externum,* and *vulva,* it is denominated the most painful.

THIRD STAGE:—The *uterus,* after a short interval of rest, re-commences its contractile powers, to pass the shoulder, body, breech, and extremities of the child, through the *os externum,* with one side to the *coccyx,* and the other to the *pubes,* which accomplish the same. The former two having left the inferior generative parts in a state of perfect dilatation, infers that in the present stage a few expulsatory efforts may expel the remainder of the child, termed the most expeditious.

FOURTH STAGE:—The secondary action of the *uterus* depends upon a renewal of the patient's strength, exhausted during the former three. Generally we find from thirty minutes to an hour, or probably it may be several hours, after the birth of the child, before pains are felt sufficiently to evidence such permanent contraction of the *uterus,* as tend—1st, To separate the *placenta* and membranes;—2nd, Exclude them;—3d, Close the ute-

rine vessels; and—4th, Prevent hemorrhage, which complete the process. We must here remark that the disposition of,—1st, The *placenta* to adhere to the *uterus*;—2nd, The latter to invert;—3d, The uterine vessels to hemorrhage;—4th, The soft parts to inflame; and—5th, The patient to syncope or extreme debility, induce the most critical time of delivery.

The Low Insertion of the Cord on the Abdomen places the greatest weight from the navel upwards; fulfils that law in nature which ordains the head of animals to be born first, and prevents the death of the fœtus by compression in natural labor, as the superior parts will be delivered, and the child capable of respiration, before the navel enters the cavity of the *pelvis*.

Change from Fœtal Life.—When the child is born, if respiration be suspended, the opinion is almost universal that inflating the lungs calls them into action; therefore it gives satisfaction if the practitioner lays a cloth over the child's mouth a few times and blows through it to try the effect; but warmth applied to the chest and abdomen by the frequent means of flannel dipped in hot water and squeezed out, is most effectual, and often succeeds in restoring circulation apparently lost, after the failure of all other means. It should be persevered in with the face exposed to the air; I have sometimes continued bathing near half an hour before respiration has been visible. For this purpose hot water is one of the articles which ought always to be in readiness previous to the birth; likewise we should use moderate pressure alternately on the breast,

and guard the *funis* between the *os externum* of the parent, and the abdomen of the child. If circulation be suspended before breathing, it produces death, upon the same principle as suffocation does after. No ligature should be applied until the breathing life is perfect, or respiration performed regularly; as action of the lungs increase, pulsation in the navel string decreases, ceasing first at the *placenta;* when the whole of the circulating blood resides in the body of the child, the cord in consequence becomes flaccid.

APPLICATION OF THE LIGATURES, AND DIVISION OF THE FUNIS UMBILICALIS.

Remove the child from under the bed-clothes after decently covering the mother; put a flannel cap on the head of the infant, and when respiration is established, take two ligatures made of several threads, so thick that there may be no risk of cutting the *funis,* each sixteen inches long, knotted at their ends to prevent them from slipping through the hands.—Apply the first five inches from the abdomen, pass it once round the cord and tie with a double knot, the second two inches nearer the navel; pass it also once round and fasten with a single; then carefully take two more turns, tie with a double knot, and divide the navel-string between the ligatures.

The part of the *funis* attached to the child, sloughs off close to the abdomen, generally between the fifth

and tenth day; then a fold of singed rag should be laid on the *umbilicus*, and the belly-band applied over it, which, if the navel continues well, may be left off in about a fortnight.

DRESSING THE CHILD.

Every thing being at hand for dressing the infant, against it is born, (vide management of labor), which should be done immediately after the *funis* is divided. This operation is the province of the nurse, but every Accoucheur should make himself acquainted with it for the purpose of instructing others. The child must be cleansed with sponge, soap and warm water; and when wiped dry, a fold of rag is to be wrapped round the remaining part of the cord, and laid up towards the breast; likewise it should be rolled on with a flannel belly-band, four inches broad, and long enough to go twice round the body, pinned immediately over the *funis*, just tight enough to remain smooth. When the child's body is dressed, put a napkin round the neck to keep the clean clothes dry, while the head is washed. In case of considerable compression on the latter, bathe it with vinegar. The articles of dress are to be put on as follow,—belly-band, napkin, shirt, flannel, roller, bed-gown, and caps.

EXPULSION OF THE PLACENTA.

If the *placenta* does not soon follow the birth of the child, women are solicitous for it to be brought away; but practitioners should act upon principle;—an early interference therewith may be productive of evil. In the former stages the passive changes the parts undergo, and the active powers exerted for their production, are independent of the will of the patient, and equal to the end for which they were designed. If a child be expelled by the natural process, with the greatest regularity, there can be no doubt of ability in those powers for the separation and exclusion of the secundines, which is but a secondary part of the same operation; we should be convinced of the necessity of using art before we attempt to interfere. On the judicious management of the *placenta* recovery depends, if a small portion is separated by pulling the *funis*, hemorrhage ensues; or if part is torn from the rest and left behind adhering, it may be productive of puerperal, typhus, or hectic fever, the consequence of either places the life of the patient in danger. After the retention of part of the placental substance for some days, the *os* and *cervix uteri* will be contracted and unyielding; likewise the *uterus* cannot act with that facility it would with the retention of the whole of it. The longer the child is passing through the *vagina* and *os externum*, the more regular will the contraction of the *uterus* be; after the birth of the former the action of the latter recommences to separate its surface from that of the

placenta, and the action that separates expels it. In order to ascertain its separation, pass the index finger of the right hand up upon the cord, whilst it is held in the left, and if the root cannot be felt in the *vagina*, the after-birth is still attached to the *uterus*. The *funis* may be extended occasionally to examine, till the root comes down, but not pulled tight, as a weak effort endangers a separation before the *uterus* is disposed to contract. A small quantity of blood issuing from the *os externum*, shows the commencement of a separation, and the recurrence of pain indicates contraction of the *uterus*. When the root can be felt by a vaginal examination, the separation is complete, therefore it will spontaneously descend into the *vagina*, where it should remain till excluded by the action of the contiguous parts; but if long passing, and the patient grows anxious, we should give some feasible cause of its retention, and may observe—1st, That we often find a strong active child born many hours or a day or two before the time, but in such cases never expect the expulsion of the *placenta* till the full period; and—2nd, That the secondary action of the *uterus* waits a return of strength, exhausted during the delivery of the child, such suggestions may induce the patient to wait with composure. However, if her mind should be disturbed by apprehensions of danger, it will be safe and prudent to facilitate its passage as follows,—1st, Gently extend the *funis* with the left hand;—2nd, Pass the right index finger up the internal surface of the *ossa pubes*;—3d, Conduct it over the anterior edge of the *placenta*; and—4th, Press it gently towards the hollow of the

sacrum. When it is passed through the *os externum*, should be supported on the hand, while the membranes follow, which is generally slow, that no part of the latter may be separated and left in the *uterus*.

INVERSION OF THE PLACENTA.

During pregnancy the *ovum* is formed in the *uterus*, with its bottom (which is the *placenta*) upwards, and the membranes downwards, representing an oval bag; in labor, after the latter are ruptured, the opening forms the mouth of the bag, for the passage of the waters, child, *funis*, root of the *placenta*, and its substance last, which, from their attachment, the latter inverts and passes through the breech of the membranes, while they are in the cavity of the *uterus*; therefore, instead of the *placenta* being the upper part, as at the commencement of labor, now at the conclusion thereof, it forms the lower portion of the bag, similar to an inverted pocket, the membranes being upwards, wherein the volume of coagula collected in the cavity of the *uterus*, may be enveloped; which by its provoking the *vagina* to contract, will be expelled, and the principle cause of after pains removed. This is the natural mode of expulsion.

The SECUNDINES and COAGULA are to be removed as soon as expelled, and a dry napkin laid over the generative organs. After hard labor or any case wherein the *perinæum* has born unusual pressure, it is a rule to smear a little hog's lard on that side of the napkin

coming in contact with the affected part. In consequence of discharge at the close of labor, the woman will unavoidably feel herself in a very uncomfortable state; therefore we should administer such relief as the present opportunity affords, by placing under her breech, the dry end of the doubled sheet which hung over the bed-side; thus, the parturient process is completed, and the puerperal state commenced.

CHAP. VII.

PROTRACTED LABOR.

By observation at menageries, we find parturition in all animals a process of nature. On experience in spontaneous delivery, depends our ability to conduct those which constitute the other species. This class includes such as authors term lingering, tedious, laborious or difficult, which last seldom occur, unless occasioned by premature interference. It is remarked, that a bad practitioner makes many difficulties, a good one seldom finds any; and nature knows none; although in proportion to the degree women are removed from a state of nature to society, are the powers of the constitution impaired, and parturition rendered tedious; yet the process is naturally the same now, as it was when Cain and Abel came into the world; therefore, difficulties therein are improbable, even if the labor occurs during the existence of an acute disease.

Patients subject to convulsions, and under the influence of consumption, small pox, &c., during pregnancy, are exposed to eminent danger; although in cases of parturition, I never attended any with those complaints, who were not delivered by the efforts of the constitution, whether they lived for a length of time or died shortly after. This is illustrated by stating first, that constitutional debility, produces relaxation of parts; whereby, resisting powers to parturition are removed;—and second, that muscular action which, whether proceeding from convulsions or other morbid cause, tends to expel the contents of the *uterus*.

Although protracted delivery may last many days, if interference be avoided, the patient free from constitutional disease, and managed with propriety, the process will be effected by the natural efforts with safety; we must submit to a degree of risk, which arises from disproportion between the head of a fœtus and the cavity of the *pelvis*, whilst waiting for efforts of the mother, and accommodating construction of the head; though the degree of its compression in long protracted labor might be deemed hazardous to children, they will often under such conditions be born safe, and the parent recover more speedily than after quick ones. The greater number of cases considered as difficult, and which were such towards the conclusion, originated not from the state of the patient, but by interposition to facilitate a process, which in its nature requires time alone. The interference generally had recourse to, are the artificial dilatation of the *os uteri*,

and the premature rupture of the membranes, which disturb the order of labor, causing the necessity of using art.

It is extraordinary, that when engaged in consultation, sent for by an Accoucheur or Midwife, but most frequently the latter, I have found seated, close to the patient's breech, with one hand under the clothes and not less frequently both; if they were doing nothing why keep in that situation, when it brings others around her, supposing it necessary to pay a near attention? such conduct is highly improper, as several persons waiting about a woman in pain, tends to increase heat; but, were they doing any thing, even only examining, why keep continually at it, as a constant irritation, at least, weakens or wears the membranes thinner, consequently induce them to rupture prematurely. Much more might be adduced to guard practitioners against interference. Notwithstanding, when labor is beyond the efforts of nature, or the latter insufficient to effect the former, assistance becomes justifiable; for which, with the time and mode of affording it, proper rules are formed.

PROTRACTED LABOR is distinguished by the following rules.—As many alterations take place in the constitution preparatory to delivery, some progress must be made evident by a change on the *os uteri*, before that process can be considered to have commenced;—1st, The prolongation of it beyond twenty-four hours, from the above-stated period; with—2nd, The head of the fœtus presenting constitute that class.

VARIOUS STATES OF THE FŒTUS.

Though our conduct is not always to be influenced by the state of the fœtus; yet, we should be competent (as it is often desirable), to ascertain its life or death.

Signs of a Live Fœtus, are—1st, The pregnancy continuing till the full period;—2nd, The presentation is firm and elastic;—3d, Distinct pulsation at the fontanels or *funis* of the fœtus;—4th, Its motion is distinctly felt;—5th, It adapts itself to the positions of the mother; and—6th, The breasts of the latter are well supported.

Marks of a Dead Fœtus, are—1st, A want of motion in itself;—2nd, No pulsation at its fontanels;—3d, It inclines to the side the patient lies on;—4th, Rigours of the woman;—5th, A sense of coldness in the abdomen of the latter;—6th, Recession of the milk;—7th, Flaccidity of the breasts;—8th, The mother is more sensible of the weight of the fœtus;—9th, The membranes rupturing early, they being dead are liable so to do;—10th, Corrupted waters discharged;—11th, Fetor in the apartment, and about the bed;—12th, *Meconium* discharged although a natural presentation, from a relaxation of the sphincter *ani*;—13th, The sutures are felt loose and distinct.

Causes of the Death of the Fœtus, are—1st, Sudden fear or affections of the mind;—2nd, Obstructed circulation of the *funis*;—3d, External accidents;—4th, Premature discharge of the liquor *amnii*;—5th, Strong

and lasting labor pains ;—6th, Undue interference during the process ;—7th, Abuse of spirituous liquor ; or—6th, An acute disease.

IMPEDIMENTS TO DELIVERY.

Are, either imperfect action of the *uterus*, or resistance made thereto when duly exerted. To regulate that action and facilitate beneficial effects, we should attend to the impediments and observations stated in this and two following pages. Natural impediments, (vide comparative parturition). Rigidity of the membranes. Shortness of the *funis*. Corpulency of the patient. Constitutional debility. Passions of the mind. Spirituous liquors. The first pregnancy. Advanced in age. A full bladder. Indurated fœces of the *rectum*. Rigidity of the *os externum* or *os internum*. Disproportion between the *pelvis* of the mother and the head of the fœtus, from deformity or diminution in the cavity of the former ; or from disease or ossification of the latter. An ear presenting. The face inclined to the *pubes*. The face advancing. The head descending with an arm. The artificial dilatation of the *os uteri*. And the premature rupture of the membranes. The two latter are most important; therefore, a judicious practitioner guards against them.

Observations on Rupturing the Membranes. Such female practitioners as are ignorant of the ill consequence, often break them, with a view of hasten-

ing delivery. It may, in some cases, accelerate the process if done when the *os uteri* is fully dilated, the head descended into the cavity of the *pelvis*, and the outlet of the latter sufficiently capacious; notwithstanding, we should recollect that labor protracted from such natural causes, coincide with the safety of the patient. This operation is admissible in only one case, namely, a dangerous hemorrhage.

In the PREMATURE RUPTURE of the MEMBRANES, its ill effects may be—1st, The *funis* passing with the waters and emerge below the head;—2nd, The protraction of labor, by bringing the solid and unaccommodating head of the fœtus in contact with the *os uteri*, instead of that soft complient medium, the membranes, containing the waters provided by nature for preventing violence on those tender parts;—3d, An increased violence of the pains; and—4th, A rupture of the *uterus*, it being in immediate contact with the limbs of the fœtus, especially, if its extraordinary action commence.

IMPEDIMENTS FROM MAL-POSITION OF THE HEAD.

During parturition practitioners are generally satisfied when they discriminate a head presentation; but it is necessary to identify it with precision; for which, and that we may have an opportunity of affording relief, we should be apprized early of the rupture of the membranes, if that event takes place, and mal-posi-

tion of the head be observed during the first stage, it may be easily remedied by the following methods.

When the Face Inclines to the Pubes;—1st, Ascertain the anterior fontanel;—2nd, Distinguish the ear, and on which side its cartilage is situated, as that gives the direction of the occiput;—3d, Raise the head a little;—4th, Place two fingers on the depending temple; and—5th, Guide the face round towards the *sacrum*, which, when aided by succeeding pains, takes its natural direction.

When an Ear or Side of the Head presents—1st, Find the ear;—2nd, Apply the vectis over the opposite side of the head;—3d, A small degree of extracting force readily reduces it to a proper position; and—4th, Carefully withdraw the instrument.

When an Arm Presents with the Head—1st, Observe the position of the head;—2nd, Ascertain if the palm of the hand be flat on, or is directed towards the head, and if the extremity be not twisted;—3d, Press the hand towards the little finger, or guide the arm in the direction of the forehead;—4th, Continue the pressure to get it to the face, where it cannot impede delivery.

When the Face Presents, it is advisable to leave the operation to nature; the more time this process takes the safer it terminates. All such presentations that came under my observation during a long experience, when submitted to constitutional efforts, terminated happily. Particular caution is necessary in face cases, to avoid injuring the eyes of the fœtus during examinations; therefore the finger should always be

carefully introduced, and tenderly applied, until the position be accurately known.

All Cases of Deviation from the Standard Position, when the head is large, its sutures ossified, and has entered the cavity of the *pelvis;* although the dimensions of the latter are rather less than the standard size, parturition will be completed by the natural efforts of the mother, unless constitutional causes intervene, when relief may be afforded by—Time and encouragement to hope for a safe delivery—Regulating the patient's conduct—Promoting the natural effect of pains—Early attention, if the cause be mal-position of the head—Manual aid, or instrumental assistance—The intention of the latter, are to supply the want of labor pains, and to save the life of the mother, child, or both; but the necessity for using them, must be decided by the circumstances of the mother. In their use, three things should be considered—1st, To make a due distinction of cases manageable with, or that allow of such help;—2nd, To discriminate such as require their assistance; and—3d, The manner in which they should be employed.

ON INSTRUMENTS.

The aid of instruments in the practice of midwifery is seldom necessary when the resources of the constitution uninterruptedly employ their influence; and, their help ought not to be allowed unnecessarily, nor without consultation and mature deliberation; the

possible mistakes, the want of experience, the presumptuous interference, and sometimes the unavoidable mischief happening in consequence, ought to impress us with a sense of the propriety of these observations; notwithstanding, their assistance should be afforded, if the efforts of the parent, or manual help prove unequal to the expulsion of the fœtus.

OUTLINE OF INSTRUMENTS EMPLOYED IN MIDWIFERY.

The Forceps are composed of two equal parts; each having a curved blade and straight handle so formed, that when applied separately upon the head, they may be locked together, and used as two conjoined levers, for the purpose of extracting it. Two kinds of forceps are employed; one with a lateral curve, denominated the *double* curved; the other (Plate I. Fig. I.), without a lateral curve, called, the *single* curved; and which are in most general use; the handles (*a*) are four inches and a half long, the blades, (*b*) from their extremity to the former, are about six inches and a half, making together eleven inches; the broadest part of the latter are one inch and a half; a depression is formed on the handles, opposite each other, for tying them together when necessary.

The Solid Vectis, (Fig. II.) is similar to a single blade of the forceps, with the exception of the blade (*b*) being half an inch more in length, one fourth of an

inch in breadth, somewhat more curved near its extremity, and without the lateral curve; some have a hinge between the handle (*a*) and the blade; others have the former to screw on, but the solid vectis is preferable.

The PERFORATOR (Plate II. Fig. I.) is in the form of scissars, and about ten inches long; the blades (*a*) from their points to the stop, (*i*) situated at an inch and quarter distant from the points, are somewhat curved, and without any cutting edge.

The INSTRUMENT, (Fig. II.) constituting the crotchet, (*c*) and blunt hook (*e*) bears some resemblance to a bow, and has its handle (*a*) in the centre. The extremities of the instrument are somewhat curved and turned inward; the end called the crotchet is flat and about three-fourths of an inch broad in the centre, the other end the blunt hook is round without any particular shape

CASES are MANAGEABLE with the FORCEPS, when—1st, The *Os Uteri* is fully dilated;—2nd, The head within the cavity of the *pelvis* (but if any portion thereof is emerged under the arch of the *pubes*, their use is seldom necessary); and—3d, An ear can be felt by a vaginal examination; in the latter case, the blades of the forceps being twice the length of the finger, will embrace the head.

CASES REQUIRE the FORCEPS when,—1st, The pains have ceased,—2nd, The head of the fœtus has rested six hours on the *perinæum*;—3d, The patient appears to be worn out with fatigue; and—4th, Her pulse and countenance indicate extreme debility.

To Ascertain the Position of the Head, we should find the posterior fontanel and the sagittal suture; they give the direction of the occiput.

Consideration Previous to Using the Forceps; when we have determined on the propriety of their help, should examine a second or third time before employing it, to be the better confirmed in our opinion; proceed slowly, but not timidly, in their application. The difficulty, either in applying or managing them, is less than that of deciding upon a proper case and time, when to do it. The lower the head has descended;—The longer the use of the forceps is deferred;—And the slower proceeded with;—Will be the easier the application;—The success of the operation more certain;—And the hazard of doing mischief less; which latter often occurs by applying them too early, and in a hurry.

RULES FOR APPLYING THE FORCEPS.

1st, Place the patient's breech close to the right side or foot of the bed, with the knees drawn up, that, during the introduction of the upper blade, there may be sufficient room to depress its handle over the bedstead;—2nd, If the forceps, with the lateral curve, are employed, their concavity will be towards the occiput, which, as the head descends, incline to the *pubes*;—3d, Before their introduction, gently dilate the external parts;—4th, The forceps are to be emersed in hot water, wiped dry, and smeared with

hog's lard;—5th, They should be applied over the ears of the fœtus;—6th, Direct the index finger of the right hand to one of them;—7th, Take the upper blade in the left, and conduct it between the head of the fœtus, and the above finger;—8th, When its extremity is over the ear, it should be kept close to the head, by raising the hand as the instrument advances;—9th, Proceeding till the lock reaches the external parts, and then to be held, steadily, by an assistant, in its situation, for a guide to the introduction of the second; which—10th, Conduct cautiously upon the index finger of the left hand, opposite the first blade:—11th, Guard against applying it in a wrong direction, or inclosing the soft parts of the mother between the instrument and the head;—12th, Take care, when locking the handles, that nothing entangles therein, by passing the finger round;—13, We should avoid tying them unless resistance be considerable.

DIRECTIONS FOR USING THE FORCEPS.

1st, Begin with a small degree of extracting force, giving time therewith, and on being assured of its insufficiency, use more exertion during pains if any, or at interval in imitation thereof, calling to mind that the head of a fœtus will not admit of continual pressure;—2nd, From time to time pass the finger round, to be satisfied the instrument encompasses the whole of it;—3d, Though the handles of the forceps are originally placed far back, towards the *sacrum*, in the direction

of the superior cavity, as the head descends, they gradually incline to the *pubes*;—4th, The action must be from handle to handle; with a moderate, or if the case requires, an increased degree of extracting force, in a line with the axis of the upper cavity, till the head be perceived descending, and the occiput easily felt;—5th, In the latter state, the force of action must be abated, and made in the direction of the axis of the *vagina*;—6th, The lower it gets, the more gently we must proceed;—7th, If the handles of the forceps were tied during the operation, it is indispensably necessary to loosen them, ere the head passes through the *os externum*, that during the passage of the former, the blades may be flattened thereon, to prevent injuring the latter.

The obstacle to delivery may in some cases exist at only one part, but in others it is more general through the whole cavity of the *pelvis*.

It is requisite, for every student to see the forceps applied; but, to use them dexterously cannot be taught; however, being instructed in the true principals of application, their management will be acquired by habit.

LESSENING THE HEAD.

Having formed rules to use the forceps for the preservation of the fœtus, I shall now mention an operation more important, namely, that of lessoning the head of the child, to save the life of the mother, af-

flicted with a deformed or narrow *pelvis*. In some cases it may be impossible to save both lives, then, that of the fœtus, uniformly yields to the parent. But this operation is so seldom necessary, that a very experienced practitioner delivered upwards of three thousand children, without having occasion to lessen the head of any! Of the life or death of the fœtus, we have often reason to doubt, when called upon to decide or act; yet it is incumbent on us, and we feel ourselves justified in treating the infant as if actually dead, in some cases, to secure the life of the mother; that one life may be saved, when two cannot. Our opinion in favour of the operation, will be guided by—1st, The inability of the parent to expel the fœtus;—2nd, The impossibility of extracting it by other means;—3d, And the danger of the former from delay. But whatever be our motive for performing the operation, the head ought not to be lessened, on the decision of one person, however well informed, unless two or more cannot be procured.

DIRECTIONS FOR USING THE PERFORATOR AND CROTCHET.

The more calm and slow we proceed to perforate and extract, the less risk will incur of failure or mischief. The vertex or posterior fontanel are advantageous places to operate, but if by circumstances they are rendered impracticable, we are to take the part most easy of access. The left hand being introduced

into the *vagina*, with the index finger upon the part intended to be perforated;—The operator is to hold the instrument in his right hand, and carefully conduct it with the convexity towards the palm of the left hand, keeping the point close to the finger;—Pass the perforator through the scalp;—Perforate the bones of the *cranium* with a semi-rotatory motion;—Then press the instrument forwards to penetrate, till the stops come in contact with the *cranium*. Continue the operation with the same gradual motion till the stops pass through the opening. Separate and close the handles several times in different direction, to make a crucial opening, large enough to allow the escape of the contents of the *cranium*. Then close and carefully withdraw the instrument. When the cerebrum have escaped, the head may probably be left to undergo diminution of bulk, by time and compression, so that by its gradual descent into the cavity of the *pelvis*, it may be extracted or expelled. The longer we delay rendering assistance the easier will be the operation. When the latter is necessary, remove all irregular shaped pieces of bone. Before we apply instrumental assistance it is proper to introduce the index finger into the opening, in the form of a hook, to pull at intervals during the action of the *uterus*. Should the head be high, the *pelvis* much distorted, or the hand prove unequal for the purpose, the crotchet is to be introduced with the right hand, guided by the left into the opening. Fix the point as distant from the edge of the bone as the curvature of the instrument allows. Pull moderately in the direction of the upper cavity. As

the crotchet may give way, it must be guarded with the finger, to prevent injuring the soft parts of the mother. If it be firmly fixed, and the head too much impacted, to be easily brought down, suppose the force required to extract it be equal to ten, and the strength which can be taken with safety, not to exceed five; and, no other purpose can be answered by exceeding the latter, except removing the part on which the instrument is fixed, but, by continuing the purchase regular an adequate increase of time, will at length be sufficient, the resistance diminishing, and the force of five remaining. *Time is equal to power.* If resistance be great, we should not act with haste or violence; therefore, after making due force a considerable time without success, desist awhile, and renew the attempt. After the head is extracted, should any difficulty exist with the thorax, the crotchet may be easily applied to any part thereof. Difficulty seldom arises in these cases, if steadiness be observed.

GENTLEMEN COMMENCING PRACTICE, are generally anxious for using instruments; but, when arrived at maturity in the profession, they endeavour to avoid them.

CHAP. VIII.

PRETERNATURAL LABOR

Is when any part of a fœtus presents except the head; it has two divisions;—

First Division

Consists in presentations of the breech or inferior extremities. The former is known by the fleshy feel; the tuberosity of the *ischium*, sulcus between the thighs, cleft between the nates, discharge of meconium, and the parts of generation. A foot is identified by its length, the heel, ancle, shortness of the toes, and the want of a thumb. This division has four stages; first, the breech or inferior extremities descends into the cavity of the *pelvis*;—second, they protrude through the *os externum*;—third, the body, shoulders, and head, are delivered;—fourth, the *placenta* and membranes are expelled. The travail of a breech case is safe with respect to the mother, but hazardous to the child; depending principally, upon the mode of delivery; which, on an average, if the process is effected by the efforts of the constitution, three out of four may be born alive; but, if by the interference of art, the former number is likely to be born dead.

Mechanical Turns, *guided by the form of the Cavity of the Pelvis in spontaneous Delivery.* The breech enters the cavity, with the thighs to the *sacrum*

one tuberosity lower than the other; and it is expelled with one to the symphysis, and the other to the *coccyx;* after the presenting tuberosity protrudes under the arch, the other clears the *perinæum;* while the breech protrudes, turning a little round the shoulders, pass the brim diagonally, the descent continues till the legs clear the *vagina;* then the head passes the brim with the face to the *sacro-iliac* junction, the arms with it, laid over the ears, whilst the *cranium* descends to the lower part of the cavity, the shoulders pass the outlet, with one to the *pubes,* and the other to the *perinæum;* then the forehead turns to the hollow of the *sacrum;* next, the chin resting upon the breast, clears the *perinæum,* which slips over the face, and the vertex comes last from under the *pubes.*

MANAGEMENT OF BREECH CASES.

1st, When convinced by the suspension of pains, imperceptibility of pulse, and change of countenance, that the powers of nature are insufficient to expel the fœtus, assistance is to be rendered, with the hand, or by passing the corner of a handkerchief over the bent part of the fœtus, at the groins, which should be increased until its middle is drawn upon those parts; then pull, gently, by the ends at intervals, in imitation of pains, and delivery will be effected.—2nd, If the feet or knees present, or are brought down, reducing the fœtus into a conical form, the former requires great deliberation, and the latter merits general disapproba-

tion, as afterwards difficulty in the labor, and danger of the child, increase as it advances—3d, Whether one foot, both feet, or the breech present, it must remain the same; it being an established rule for the latter, especially with the inferior extremities turned up upon the sides of the abdomen, to be expelled by the natural efforts; whereby, the *funis* lying between them is protected, and the parts so amply distended, that the head readily passes the cavity of the *pelvis*, which is the principal time of danger—4th, When the breech begins to protrude the external parts, attend to its position whatever that may be; the fœtus would easily descend till it comes to the head; but the latter could not pass, or its position be changed without difficulty, if the face were towards the *pubes* of the mother; therefore, as soon as the breech is expelled, the practitioner should, whilst the body is passing, give such an inclination to it, that the hind part may be brought towards the *pubes*.—5th, If the arms are turned up upon the head, it may protract the expulsion of the latter; but the former being natural protectors of the *funis*, the process will be safe. However, if an attempt be made to fetch down the upper extremities, it must be close to the breast; after bringing one, guide the body towards it, and then bring the other. In this operation great caution is required, to avoid a fracture, or dislocation.—6th, If the circulation be in danger, which is rare while the the arms are turned up, in that case bring them down, and introduce the two foremost fingers of the left hand within the *perinæum*, to use a degree of pressure on the

maxilla superior, which inclines the face towards the breast, opposite the *os externum;* whereby, if the child breathes, it will be safe, and we are thereby authorized to give due time for its expulsion.—7th, Should circulation in the *funis* become feeble before respiration takes place, we must extract the head. Let an assistant guide the body of the child on his right hand, with its back towards the *pubes* of the mother, in the vaginal direction, with his left hand spread on the breast, his thumb in the axilla, and a finger over each shoulder, using very gentle extracting force during pressure on the upper jaw.

A Footling Case;—The treatment of which depends on circumstances; if the pains are regular, although but in a moderate degree, delivery will be effected thereby; but, if they diminish, and the pulse and countenance of the patient indicate debility, it will be proper to enfold the feet in a napkin, and gently slide them down, at intervals, in imitation of pains, the detrusion or extraction of the breech should be slow.

Second Division

Consists in presentations of the shoulder, or superior extremities.—The former is known by the *scapula* behind it, *costæ*, *joint*, and *humorus*. A hand is distinguished, by the flatness, length of the fingers, and the thumb, not being in a line with the rest.—The hand presenting, should be ascertained whether right or left, and by its position, to which part of the *uterus* the feet are directed, the palm being naturally towards the inferior extremities.

PRETERNATURAL PRESENTATIONS may sometimes be discovered before the membranes break, by examining in the absence of pain.—An upper extremity should be returned as soon after the discharge of the waters, as the *os uteri* is dilated sufficient to admit the hand up to the muscles; the longer we remain the greater will the difficulty be in turning; but whilst the membranes are entire whatever be the position, the fœtus is in no danger, and a natural dilatation is preferable to an artificial one.

THE ART OF TURNING.

1st, The position of the patient should be such as allows the free use of our hands;—2nd, The *os externum* should be tenderly dilated with the fingers of the right hand, first anointed with fresh hog's lard, and reduced into a conical form, acting with a semi-rotatory motion, and taking time that the dilatation may be complete, and not liable afterwards, to contract about the wrist, which impedes the subsequent part of the operation;—3d, The hand should rest a little, after it is introduced into the *vagina*;—4th, During the introduction of the hand, gently raise the presentation, which facilitates turning the fœtus. If action of the *uterus* occurs, the hand should remain passive, till the pain subsides;—5th, Pass the hand between the *pubes* of the patient, and body of the fœtus, along its sides, thighs, and legs, to come to the feet, which generally are directed towards the abdomen of the mo-

ther ;—6th, It is so necessary to recollect the description of the hand and foot, that mistaking the former for the latter complicates or increase the difficulty ;—7th, The operation of passing the hand into the *uterus*, is, on all occasions, to be performed with deliberation, that the head may have time to direct ;—8th, When we have obtained one or both feet, either in the hand or between the fingers, guide them slowly down the belly of the fœtus, which commonly turns without difficulty ;—9th, When they are brought into the cavity of the *pelvis*, rest with them in the hand, till the *uterus* begins to contract ; then bring them lower at each pain, and so direct the body of the fœtus that its face shall verge towards the hollow of the *sacrum* ;—10th, With a contracted *uterus*, or large fœtus, turning may take too much time and strength for the operator's hand to keep the feet till they are brought through the *vagina* ; to facilitate which, a nooze of fine list, or a narrow slip of shammy leather, may be conveniently fixed, by an assistant, round the ancles, first forming it over our wrist, and then sliding it over the hand containing the feet ;—11th, The nooze being fixed about both ancles (or if it incloses only one will keep that till the other is brought down), extend it, allowing time, aided by the action of the *uterus*, till the extremities are brought through the *os externum*, forming a footling case.

UTERINE ACTION.

The action of the *uterus* consists of three kinds ;—1st, Its permanent diminution, is the consequence of an inherent disposition to recover its primitive size when any cause of distention is removed ;—2nd, The spasmodic efforts of the whole or any part of it from morbid affection, and which is generally unfavourable to the expulsion of its contents ; and—3d, The extraordinary contraction is productive of strong periodical pains; by which the uterine contents may ultimately be expelled, or possibly the *uterus* ruptured.

TURNING during PERMANENT ACTION.—When the membranes has been long ruptured, and the waters discharged, two objects require attention ; wrong position of the fœtus, and contraction of the *uterus*. The space of time required for performing the operation, which has been already described, depends on the degree of contraction.

TURNING during SPASMODIC CONTRACTION depends on insinuating the hand, with gradual perseverance, to diminish the spasm, and proceed similar to the former.

As EXTRAORDINARY ACTION may rupture the *uterus*, the hand should never be introduced whilst that affection continues, and if the latter occurs after an introduction it should not act but be depressed on the fœtus, and remain passive or removed, as there is not the smallest hope of saving the fœtus by turning, when that operation is effected with violence.

SPONTANEOUS EVOLUTION

If consulted long after the waters are discharged, and the *uterus* contracted, with a shoulder compressed in the upper cavity of the *pelvis*, Dr. Denman points out the propriety of passing the finger and thumb in the form of a crutch, into the axilla of the fœtus, in order to raise the body towards the *fundus uteri*, to allow of the introduction of the hand; but we are seldom consulted till the uterine contraction and pains are too strong for that operation to become practicable; when such cases occur, as turning cannot be effected without great violence, and as any interposition tends, not only to defeat the natural efforts, but are in danger of rupturing the *uterus*, (having been myself often requested to visit patients after such occurrences); therefore we should wait the event and probability of a spontaneous evolution; which may take place, and delivery be effected with safety to the mother. It being allowed by the majority of experienced practitioners, that if no disease were co existing, the fœtus may evolve upon its own axis to facilitate its passage, and come into the world by a breech presentation. The facility of the operation, or time it takes, depends—1st, On the size of the child;—2nd, The aptitude of its position;—3d, The dimensions of the *pelvis*; and—4th, The exertion of uterine power. But should the latter prove insufficient, and in consequence, the evolution would not be effected; yet, by a continuation of pain, as the *fundus uteri* acts immediately upon the

inferior extremities, pressing the feet gradually lower, they become more accessible, and when pains subside, the *uterus* may be acted upon. The process is effected by an uninterupted action of the *uterus*. I have experienced many cases of spontaneous evolution, wherein the child has been expelled without any assistance and sometimes born alive.

This grand effect of uterine power is now universally acceded to, for which, with the clear principles and general improvement of the science, we are indebted to the late enlightened professor Dr. Denman.

VARIOUS PRETERNATURAL PRESENTATIONS.—In those of the back, spine, belly, funis, &c. the mode is to bring down the feet if the state of the *uterus* admits the introduction of the hand, but should its extraordinary action or other morbid cause prevent, we are to be guided by their indications.

SEPARATION OF THE HEAD.

By bringing down the body of a fœtus in preternatural labor, if the head be partially separated, especially when in a putrid state, its management, although only with a small degree of extracting force when injudiciously applied, may be attended with considerable embarrassment. But if a total separation takes place, and it remains above the brim of the *pelvis*, is of an ordinary size, it being slippery, and gliding from the touch, must render the case extremely complex. Such

events sometimes occur and are indicative of palpable interposition.

For the EXTRACTION of the HEAD.—1st, Pressure is to be made by an assistant, upon the inferior part of the abdomen of the patient, or by means of a napkin passed round her body, and made sufficiently tight to keep the contained part in a steady position;—2nd, Carry up a net, contrived for the purpose, or take a fine silk handkerchief with a piece of narrow ribbond of sufficient length, sewed to each corner, the hand inclosed therein and introduced into the cavity of the *uterus*;—3d, Place it over the head; the use of the ribbond is to assist in spreading the silk, or in bringing down any corner that may have been pushed up during the operation; if, after the hand is withdrawn, owing to the size of the head, or contraction of the pelvic cavity, it cannot be brought down; yet—4th, Its enclosure can be effectually retained by an assistant, whilst the operations of perforation, diminution, and extracting are performed with safety and facility. If the head had entered the cavity of the *pelvis*, before the separation took place, it could be easily extracted with the vectis, keeping a moderate degree of pressure, just above the *pubes*.

EXTRACTION OF THE PLACENTA.

The *placenta* is distinguished by its being less firm than the *uterus*, and more solid than coagula. In case of adhesion of the after-birth to, or retention of it

in the *uterus*, if there be no hemorrhage or other urgent symptom, we should wait four hours after the birth of the child before we attempt to extract it; at which time, the parts may not be closed after the birth of the child; we have often been called to cases of retained *placenta*, where there had been no difficulty in its extraction, after having been retained twenty-four hours, or much longer. If the patient has pains, the expulsion of it may sometimes be forwarded, in aiding the contraction of the *uterus*, by means of friction, in a circular direction, or moderate pressure on the abdomen, and gently pulling the *funis* during the operation, which if moderate no risk attends it; likewise we may occasionally extend it between the pains, using no more force than will prevent its retro-cession, in the act of inspiration. If these means fail, we should ascertain the cause of its retention, which may be adhesion of it to the *uterus*, the inaction of that viscus, or a spasmodic contraction of its muscular fibres.

RETENTION OF THE PLACENTA BY ITS ADHESION TO THE UTERUS.

Though the secundines may have been retained many hours, if convinced of any degree of descent at our examinations, which are to be made but seldom, we should wait; but if no alteration is evident, and we can separate with safety, they may be extracted. If the *os externum*, *vagina*, *os* or *cervix uteri* be contracted,

they should be gradually and carefully dilated; the following are two safe modes of separation.

The First Manner is to excite the action of the *uterus*, by—1st, Introducing the hand;—2nd, Slight irritation caused with it or the fingers upon the internal surface of the *placenta*, continued for some time;—3d, Lightly rubbing the abdomen;—4th, The application of clothes dipped in cold vinegar to the parieties of the latter. If it does not separate at the laps of six or eight hours from the birth of the child, we may very cautiously pursue.

The Second Method;—1st, Carefully draw the edges of the *placenta* nearer to each other;—2nd, Gently raise its edge from the *uterus*;—3d, Effect the separation with the end of the fingers, but if difficulty arises by a portion adhering firmly, endeavour to disengage it, by—4th, Alternately bending one part over the other; and—5th, By passing the fingers between it and the uterine surface, the closer the adhesion the slower the division; but if too fast to detach with safety, the whole should be left in preference to a part, for the good effect of more time and the further action of the *uterus*. When the separation is effected, retain the hand in the cavity of the *uterus* till the latter is felt contracting, then gradually withdraw it, containing the *placenta* into the cavity of the *pelvis*, thence it may be expelled by the action of the parts.

RETENTION OF THE PLACENTA FROM INACTION OR SPASMODIC CONTRACTION OF THE MUSCULAR FIBRES OF THE UTERUS.

The form of ascertaining is by examination per vaginam; which should be done only in cases of necessity; the mode is to introduce the hand till the contraction of the cervix, or cavity of the *uterus* is felt round the *funis*; one finger should be insinuated along the latter, when turned in a semi-rotatory motion, it soon makes room for a second, and in like manner till the whole of the fingers are admitted in a conical form; before passing beyond the contraction, that part should be slowly but amply dilated, then carry the hand carefully forwards to bring the *placenta* thereto, and it should be retained there till by pressure above, we are sensible the *fundus* of the *uterus* is contracting, afterwards it should be withdrawn slowly into the *vagina*, whence its expulsion may be effected by the action of the contiguous parts. This operation rarely becomes necessary if the woman keeps in a tranquil state, and at the same time takes light nourishment; by this mode of treatment, the tone of the *uterus* will be in a great measure restored; which promote the contraction of its *fundus*, relaxation of the structure, and expulsion of the *placenta*. Under similar management of one patient, after the full period of *utero-gestation*, and of another after premature labor, in the former, the after-birth came away the fourth day, and in the latter the twenty-fourth, without any material

pain or inconvenience at the time, or symptom of ill health ensuing. After the extraction is completed, we should ascertain by an examination per vaginam, if the *uterus* be inverted.

INVERSION OF THE UTERUS.

This disease is only liable to take place soon after labor, whilst the *os uteri* is in a state of dilatation; if the complaint is not discovered and reverted within a few hours, or in a short period after its formation, we have but little hopes of affording relief, difficulty increasing with time, till the *cervix uteri* girds the inverted *uterus* so firm, that it cannot be removed. The cause of *inversio uteri* may be by force used in pulling the *funis*, by withdrawing the hand from the *uterus* with the *placenta* before perfectly separated, or by the shortness of the *funis*. If the inversion ensued from too great a degree of force in pulling the *funis*, it may be completed by the action of the *uterus*; and if, by the shortness of the *funis*, it may be effected by a small force in pulling the same.

To ASCERTAIN an INVERSION,—1st, Apply the hand to the lower part of the abdomen, and instead of the tumour of the contracting *uterus*, will be felt, through the integuments, a considerable vacuity;—2nd, Examine per vaginam, and the *fundus uteri* will be either in *os uteri* or *vagina*; it may be inverted quite through the former, but which seldom happens. We

should examine to ascertain if inverted in all cases of uterine hemorrhage, that occur subsequent to labor.

If we are consulted early there will be but little difficulty in restoring the *uterus* to its natural situation, recollecting that, according to the degree of contraction of the *os uteri*, will tumefaction and tension of the *fundus* be increased; therefore, in order to facilitate its reduction, we should first compress it with the hand, previously emersed in cold spring water, which with a little perseverance will reduce its size; should these means be found ineffectual, recourse must be had to the lancet, and the patient bled till syncope and general relaxation of parts be produced; when, if the bladder and *rectum* are previously emptied, if the patient lies on her back with the breech raised, and if we make an attempt without delay, violence, or precipitation, by first reducing the *fundus*, or turning the tumour into a cavity, to get into the *vagina*; then with two or three fingers, and afterwards the whole hand, replace it in the abdomen, and should remain till the *uterus* contracts upon it. If a reduction of the *uterus* is not effected, the patient will be subject to mucous discharges or frequent hemorrhages, all we can then accomplish will be the moderation of urgent symptoms. Besides the inversion, we are more liable to a semi-inversion, in which the *fundus* of the *uterus* is bent inwards, but no part passed through the *os uteri*. Having been often consulted in cases of retained *placenta*, frequently observed its occurrence; the semi-inversion should be returned, and the hand remain until the *uterus* contracts upon it.

CHAP. IX.

COMPLEX LABOR.

Is such as requires particular attention, or artificial assistance ; it has four divisions :—

Hemorrhage composes the First Division,

And includes all that occur during *utero-gestation*, labor, or its attendant consequences. The disease is a flow of blood from the *uterus*, and has four varieties.

The First Variety is such as occurs in abortion, or till the end of the sixth month. This is the most usual complaint of pregnancy, and consists in two stages—1st, Detachment of the *placenta* from the *uterus*, producing hemorrhage, from the rupture of vessels; and—2nd, Expulsion of the contents of that viscus, producing pain by the contraction of muscular fibres.

Treatment to Prevent Abortion ; if not the first time, avoid the cause which produced it, if from external injuries or plethora, bleed, as the pulse may indicate, administer gentle aperients, keep the woman cool, and in a recumbent posture, with scrupulous exactness, because if upright, the *ovum* rests on the *os uteri ;* cold applications should be used to the region of the *uterus* and external parts. If the symptoms indicating the approach of the disease arise from debility, the patient should be put upon a generous diet

and the use of such tonic medicines as may best answer the purpose of restoring general health.

The Most Usual Period at which Abortion may take place is about the third month from conception, and implied by the term miscarriage; the further women remove from the primitive state to that of society, the more subject are they to the following causes. Weakness—Sympathy—Habit (after the first time)—Tumours—Constipation—Increased circulation—Violent exertions—Spirituous liquor—Accidental injuries—Acute diseases—Various passions of the mind—Tenesmus—Strangury—Diarrhœa—And occasionally, the intercourse of sexes before quickening; the *uterus* remaining in the cavity of the *pelvis* is more exposed to irritation and pressure, than after its ascension into that of the abdomen.

Symptoms of an Approaching Untimely Birth, are—Absence of the morning sickness.—Subsidence of the swelling of the breasts.—Frequent micturition.—Tenesmus.—Pain in the back, abdomen, and inguinial region, sense of weight in that of the *uterus*, and hemorrhage from the latter, is a symptom proving the *ovum* to be wholly, or in part separated from it. There is a diversity in the manner which women abort, some with much pain, others with but little; and in some instances the total absence thereof; some with profuse hemorrhage; many with only a small show; frequently the *ovum* is soon and perfectly expelled; in some cases, not until after considerable time, and then by small portions in a decayed state; in others the membranes rupturing early, the fœtus is

expelled first, and the involucra in a while, or some days after; with many the embryo comes away enveloped in a clot of blood, escaping our notice.

TREATMENT during the PROCESS most beneficial is, to compose the mind, rest in a recumbent posture, and attend to urgent symptoms; hemorrhage therein, though sometimes alarming in appearance from quantity, is seldom dangerous if unaccompanied with an acute disease.

The SECOND VARIETY of HEMORRHAGE, is such as occurs from the beginning of the seventh month to the full period, arising from two causes.

FIRST CAUSE is the partial or total detachment of the *placenta* from the surface of the *uterus*, distinguished,—By the hemorrhage being most profuse in the absence of pain. Its cessation during the presence thereof; and—The membranes being found within the *os uteri*, like a bladder of water.

SECOND CAUSE is the attachment of the *placenta* over the *cervix uteri*, ascertained,—By the hemorrhage commencing during a change on the *os uteri*, which dilates as labor advances,—Being most profuse during pain,—Increasing with the strength thereof; and—The *placenta* being found within the *os uteri*, like a fleshy substance.

The EFFECTS of HEMORRHAGE are, head-ach, a quick, and sometimes an imperceptible pulse, a cadaverous aspect, coldness of the extremities, inquietude, accompanied with continual faintings: these symptoms, though dangerous, may be relieved, as three salutary effects are often produced by syncope; the cir-

culation is carried on more slowly; coagula sooner form; and the vessels contract more efficaciously.

The EFFECTS GENERALLY PRODUCED on the *uterus* by the continuance or violence of the disease, are—1st, Flaccidity of its mouth;—2nd, Laxity of its muscular fibres; and consequently—3d, Deprivation of its power of action.

The TREATMENT with DETACHMENT of the PLACENTA from the UTERUS. The rule is to rupture the membranes as soon as felt, which always diminishes or relieves the complaint; but if it continues afterwards, unattended by the action of the *uterus*, labor must be accelerated. The mode is to extract the head with the forceps, if within the cavity of the *pelvis*, but if not, we should turn the fœtus, bring down the feet, and form a footling case.

The TREATMENT with ATTACHMENT of the PLACENTA over the CERVIX UTERI. The rule is to accelerate labor as soon as the *os uteri* with facility admits of artificial dilatation; endeavouring to effect the same by slowly but steadly persevering, till it is dilated sufficiently to allow the hand to pass. The mode is to pass the hand between the *placenta* and *uterus*, rupture the membranes, bring down the feet, and form a footling case.

HEMORRHAGE from either of these causes seldom continue during labor, after evacuation of the liquor *amnii*, which diminishes the size of the blood vessels, lessens the distention of the *uterus*, accelerates the action of the latter, and enables its surface to embrace and come in contact with the fœtus. Should the com-

plaint occur or continue after discharging the water (which is rare), our conduct will be influenced by the following;—

Observations on Uterine Hemorrhage.—First, they are dangerous when great discharges occur in a short time; when in the absence of pain, the *uterus* not contracting, and when near the full time of *uterogestation;* therefore the disease requires prompt attention. Second, when delivery by the natural efforts is doubtful, it is an established rule to promote, early, the first two stages by art. Third, if consulted in cases where no part of labor has been accelerated, and the action of the *uterus* is so strong about the fœtus as to prevent the introduction of the hand, the former will be expelled thereby. Fourth, any attack which deprives the *uterus* of sufficient energy to expel the fœtus, equally bereaves the *os uteri* of its rigidity and irritability; so that by cautious perseverance no difficulty or danger is likely to arise in passing the hand into its cavity, which, in other cases might produce convulsions. Fifth, such symptoms as indicate the necessity of delivery, prepares the parts for the safety of its performance, therefore we should not wait for a soft yielding state of the *os internum*, which in hemorrhage is an alarming symptom. Sixth, when the cause of the complaint is the attachment of the *placenta* over the *cervix uteri*, we should recollect that by adhesion, the former becomes a band which resists dilatation, it being placed between the fœtus and *os tincæ*, prevents their coming in contact with each other; hence the *uterus* is deprived of that stimulus which in other

cases is excited by pressure of the membranes at the mouth of the womb, wherein we should be actuated by the second observation. Seventh, in cases after the head or lower extremities are delivered, which completes the first two stages, we should allow the subsequent ones to proceed by the uterine efforts alone, especially as in those stages a small uterine action will be sufficient, and the *cervix uteri* restrained from closing before the *fundus* acquires its degree of contraction. Eighth, protracting the last two stages of labor in hemorrhage, affords the patient an opportunity of recovering strength. Whilst the orificès of the uterine vessels are in contact with the fœtus, cold broth, jelly, or other nourishment may be given, not only without risk of increasing the disease, but with advantage. Ninth, by recruiting the strength of the patient, the action of the *uterus* is promoted, and the latter stages are easily effected, the resisting powers to parturition having been already removed by the accomplishment of the former. Tenth, by the action of the *uterus*, the uterine vessels contract, and their orifices close.

The THIRD VARIETY of HEMORRHAGE is such as occurs after the birth of the child; every discharge of blood is not a motive for the extraction of the *placenta*, as some generally precede its expulsion, especially that contained in the uterine sinuses and capacious vessels, being sometimes considerable; however as it is of no further use, will escape. In cases of profuse hemorrhage, after the birth of the child, whether it be continued to or come on at that period, the extraction of the *placenta* becomes a consideration. If the patient be

reduced, from the disease which has abated, it ought not to be taken away until she be sufficiently revived, as danger thereby would be increased, or fatal effects the consequence; its operation is considered in some cases as a remedy for present dangerous symptoms, but cannot remove the effects of such as have ceased. For treatment of the third variety, (vide relapse of hemorrhage), and as attention thereto has always afforded relief, I have never had occasion to fetch down the *placenta* for that purpose. In the extraction of the latter, the danger of pulling the *funis* consists in tearing it from the root, of inverting the *uterus*, of injuring it by violence, or of increasing the disease; therefore the after-birth should be brought (when that operation is necessary), by an introduction of the hand, especially as the irritation thereby produced may occasion a return of the action of the *uterus*, before dormant, which facilitates its exclusion.

The Fourth Variety has been described as an immoderate flux of the lochia, it occurs after the expulsion of the *placenta*, and varies in different women, being in some inconsiderable, and others are disposed to have a very profuse discharge, which reduces the patient to the most critical state. The latter specie may be produced by—1st, Precipitation in the extraction of the *placenta* not allowing sufficient time for the *uterine* sinuses to contract;—2nd, Raising the patient to an erect posture soon after delivery;—3d, An inversion of the *uterus*; or—4th, Inaction of the latter, which is most generally the cause; it being left in a collapsed instead of a contracted state; for the treatment see relapse of hemorr-

hage. To guard against the latter, after the exclusion of the placental substance from the cavity of the *uterus*, we should allow it to remain in the *os uteri* and upper part of the *vagina*, not only an hour, but if occasion requires, for the space of several hours; as afterwards its irritation or a moderate pressure on the abdomen may urge the *uterus* to act and eject it, which at the same time, obliterate the mouths of the vessels; and the recurrence of pain is an assurance of safety. When the *placenta* has protruded through the *os externum*, it should remain there until the membranes follow, which with equal propriety should be waited for. In such cases, danger consists in precipitation, and safety in deliberation.

Relapse of Hemorrhage, should be treated on general principles, the use of sulphuric acid, in addition to the Infus. Rosæ. a free current of air to be allowed to pass trough the apartment; the patient to lie in a recumbent posture, or with the breech raised above a level with the head, a light covering only to remain over her; quietude should be observed, and the application of cold lotion to the external parts are most likely to encourage the natural action of the *uterus;* which mode of treatment has been always successful; but we frequently find such as have had profuse discharges become hectic or dropsical. As some patients with impunity loose a larger quantity of blood than others during labor, we must judge from its consequences (vide effects of hemorrhage); the less discharged the speedier the recovery.

Convulsions compose the Second Division of Complex Labor.

Women are liable to be attacked by puerperal convulsions after the seventh month, but they generally occur immediately at the commencement of the parturient process. The paroxysms appear periodically, increasing in strength, and intervals similar to labor pains, and independent of the latter; the former are capable of expelling the child, which in consequence of the disease, is frequently born dead. These convulsions may be distinguished from others by their extreme violence, the distortions of the face, the motion of the eyes, the powerful muscular action and agitation of the whole body, which are frightful to behold; likewise by foaming at the mouth, and the act of respiration, with the teeth fixed, makes a terrific hissing noise; afterwards, remaining in a comatose or insensible state, somewhat similar to an apoplectic affection; sometimes the patient awakes, and continues sensible a short time, until suddenly stretching herself out, the return of another fit is indicated. As sensibility in the intervals diminish, and the paroxysms strengthened, danger increase, depending on the cause of the disease, but which is not to be estimated from the frequency of their return, as that depends on the action of the *uterus*. They may occur in natural or preternatural presentations; but I have never attended any patient in convulsions in which the head of the fœtus did not present.

To Prevent this Complaint, women that are liable thereto, should be particularly cautious during the period it usually occurs, and abstain from irregularities in the manner of living, avoid situations where they may be under restraint, the mind should be kept composed, occurrences which agitate concealed, apprehensions quieted, and suffering soothed by tenderness.

Causes of the Disease, are the irritable state of the *os uteri;* irritable state of the constitution, increased by pregnancy; every part of the body participating in that of the *uterus;* disturbed state of the mind; violent or sudden impressions; distention of the bladder, or intestinal canal; pressure of the *uterus* upon the descending blood vessels, impeding the return of blood from the head; extravasation of blood from the vessels in the latter; inflammation of the brain, or the artificial dilatation of the *os uteri.*

Preceding Signs of Convulsions; are, vacillation of the mind, delirium, swimming of the head, violent head-ach, indistinct vision or blindness, strong rigours, swelling of the neck and fauces with enlarged features, bleeding from the nose and spasms of the stomach. These symptoms occurring in a woman at or near the termination of *utero-gestation;* are indicative of approaching convulsions; therefore the treatment immediately necessary at their appearance is, opening all the emunctories to afford every possible relief to the system, by copious bleeding from the arm, jugular vein, or temporal arteries; the application of the scarificator to the nape of the neck, and leeches to the vi-

cinity of the temples; the exhibition of saline cathartics, passing the catheter, and using the tepid bath.

Treatment Proper at Commencement of the Paroxysms, is to bleed amply and repeatedly, give active cathartics if the patient has the means of swallowing, empty the *rectum* with enemas, and bladder with the catheter; dash cold water in the face, or pour it on the head, and deliver by art as soon as the *os uteri* is naturally dilated. The artificial dilatation of which increases the disease.

Cæsarean Section.

In case a patient dies undelivered, of convulsions or other disease, at the full time, and the fœtus living, this operation should, by the sanction of her friends, immediately succeed that event. It is effected by making a longitudinal incision in the left side, from eight to ten inches long, and the distance of three inches from the *umbilicus*. We do not advert to the method of performing this operation in the living subject; but to open the *uterus* of a corpse by incision, for the removal of a live fœtus, every Accoucheur should be competent.

Plurality of Children, compose the Third Division of Complex Labor.

The primary signs of a twin-pregnancy, are an unusually enlarged abdomen, uncommon motion in the *uterus*, slowness of the antecedent delivery, and a second discharge of waters before one child is born.

The secondary marks are, a gush of liquor *amnii* subsequent to the first labor, the abdominal rotundity remaining after one twin is expelled, a continuance of regular pains, and the presentation of the second fœtus or membranes, ascertained by examination. When we are certain of the existence of another child in the *uterus*, it is usual to acquaint the friends of the patient therewith, but not herself.

The AVERAGE of TWIN DELIVERIES are about one in forty; their priority of birth depends on position, not superiority of strength. If the first child requires turning, avoid rupturing the membranes of the second, and when the bag is broken, be careful if two feet are brought down, that they are of one fœtus.

It has been observed that the first process of a twin case is slow, and it is remarked that the second ought, if possible, to be more deliberate, although no difficulty may arise, yet much time should be employed therein and still more with the *placentæ*, if they do not descend spontaneously, that the contraction of the *uterus* may be uniform and permanent; for which reason an artificial delivery of the second fœtus should never be attempted, unless constitutional causes render it necessary. The inconvenience arising from a contracted *os internum* or *externum* is inconsiderable when compared with that of an irregular, contracted, or collapsed *uterus*, particularly liable after the hasty expulsion of twins. Whether the *placentæ* are separate or connected, if assistance be necessary (which is very improba-

ble unless from constitutional causes), we are to aid the expulsion of them together. Uterine discharge is more copious with a plurality of children than it is in natural parturition.

Although twins and triplets are classed with cases which require assistance, yet no more than two such have occurred within the range of my practice. By attending to nature's time and efforts, through the space of fifty years, I have not experienced the loss of a patient during the process of labor or in consequence of its management; having been ever influenced by a conviction that when assistance is unnecessary, interference becomes injurious. In protracted delivery the proper attention to the patient consists in quieting parturition, or relieving an irregular state of body, as circumstances require. With such management parturition may continue many days in perfect safety.

Descent of the Funis below the Head, composes the Fourth Division of Complex Labor.

Such labors are neither difficult in their progress, nor dangerous to the patient, but frequently attended with the death of the fœtus; to guard against which, various means have been tried and recommended independent of turning, as performing the latter operation in those cases is seldom proper. The usual directions are, to return the cord, which done to keep it up, and preserve it from pressure; the first is practicable, the second and third, no rule of practice has hitherto been

able to effect; in attending many *funis* presentations I have had opportunities of trying various methods, and found the following one always effectual.

To PROTECT the NAVEL-STRING, first, allow the head to descend until it is nearly within the cavity of the *pelvis*, during which the circulation is seldom impeded; second, elevate the breech of the patient higher than her head; third, raise the head of the fœtus sufficiently to return the *funis* above the brim of the *pelvis*; and, fourth, follow it up with a piece of new sponge, of an oval form, so large as the case requires, previously wetted in warm water and squeezed well out, as the sponge immediately expands, prevents itself or the cord from re-entering the cavity till the head has descended below it. The arrest of danger is so certain in this easy mode of retention, and the application so safe, that I have never lost any child in such cases, or experienced the smallest injury to the mother, since its institution.

MONSTERS.

The early symptoms of monstrosity are similar to those in natural pregnancy. At the time of labor, whatever be the structure of the fœtus, it is generally delivered with ease; we may be mistaken in the presentation, but if difficulty arises, an investigation may discover the case. For its extraction with safety to the patient, the rules of practice provide for every exigence.

There are VARIOUS DENOMINATIONS and DESCRIPTIONS of MONSTERS, the following three classes

are mentioned, and they arise—First, from a redundency of parts, consisting in additional limbs, toes, fingers, or excrescences, which are more or less important, according to size or situation. Second, from a deficiency of members, as of the brain, or of the whole head in the acephalis, or one eye in the monocules; of the lip or palate; in the hair lip; of an arm; hand; one or more fingers; of the spinal processes of the *vertebræ* in the *spina bifida;* a part of the abdominal viscera; of the lower portion of the *rectum*, terminating before it reaches the *anus*. Third, from a confusion of substances, when the whole body is in one mass (vide moles); or of surfaces adhering together, as of the fingers, toes, *anus*, or *vagina*, &c.

Monstrous imperfections by former opinions were supposed to arise from the power of imagination of the mother, transferring the imperfection of some external object, or the mark of something which she anticipated, to the child, or from fright, or accident which happen during pregnancy. Although this opinion is, (unless what happen from accidents), disapproved by modern practitioners, who form objections against it, particularly that of there being no nerves in the connecting medium between the mother and the fœtus; yet, from various experienced facts, I am inclined to acquiesce in the original opinion.

MOLES.

By this term, authors describe different productions; some signify substances which are the consequence of

imperfect conception, *ovo deforme*, or when the *ovum* is in a morbid state; others, (and which is the most popular opinion), thinking coagulum of blood continuing long enough in the *uterus* to assume its shape, is called a mole. As substances of this kind, which most commonly occur after delivery, were expelled by the action of the *uterus*, there would be no reason for enquiry, if women had not annexed the idea of mischief to them, and attributed their continuance in the *uterus* to the misconduct of the practitioner; but experience proves that the retention of such coagula is not productive of danger, and that they are safely expelled by the action of the *uterus*, though at different periods after their formation. As this frequently occurs in practice, we should guard against such reflections; when suspecting any portion of the membranes are left in the *uterus;* which in suspending the *placenta* by the *funis* the deficiency will be visible, and as coagula are sure to collect about it, we may observe to the nurse, that if any condensed clot of blood should come away with the discharges, or when urine is voided, it must be saved for our inspection, as we shall know from its appearance if the cleansing is regular, and contraction of the *uterus* permanent, which observation provides for such occurrences as may happen, and convinces the patient of our attention to the puerperal state.

CHAP. X.

PUERPERAL STATE.

In about two hours after delivery, if no untoward symptom prevents, the patient may be placed in bed, have her foul things removed, the clean clothes drawn smoothly down, and the broad band of the skirt tightened just sufficient to remain easy and comfortable round the abdomen. She should not be raised to an erect posture, which may cause syncope or hemorrhage; wherein appears the utility of having her clean clothes put on, and turned up before delivery, they being drawn down with facility afterwards. In case of fainting or any hysterical affection, which may occur after delivery, place the patient in a recumbent posture, or her hips raised above a level with the head; open the curtains and windows to allow the current of fresh air to pass through the chamber; and give light nourishment, with or without a little wine, as symptoms require; but spirituous liquor in a lying-in or child-bed apartment, does not appear to be ever necessary. Pass the hand under the generative parts of the woman, to ascertain if the cause be hemorrhage, which treat accordingly.

Diet of the Patient.

In general, during the first two or three days the diet should be low, but sufficient for the strength to be

duly supported by it, and some constitutions require more solid nourishment the second day. The usual allowance is caudle; which is oatmeal boiled in water until it is of the consistence of a thin jelly, and rendered agreeable to the palate by the addition of a little sugar, and as much ale as will make it duly cordial; it is then denominated brown caudle; but, if instead of ale, a little wine is added, it then receives the name of white caudle.

First Visit to a Child-bed Patient.

The questions should generally be directed to the nurse. We should observe the state of the patient's pulse, that of her skin, and the appearance of her tongue. Enquire if the lochial discharge be little or much; if any condensed clot has been expelled with the latter; what sleep she has had; what after-pains; if her breasts secrete milk; if the infant sucks; if it has evacuations of meconium, and has wetted a napkin. The two latter questions answered in the affirmative, evidence the pervious state of the child's passages. Likewise, enquire if the mother has discharged any urine; in case the latter be retained sixteen or eighteen hours after delivery, circumstances may indicate the utility of passing the catheter; therefore, an Accoucheur in full practice, especially in the country, should always have one in his pocket.

Menorrhagia Lochealis, or Lochia,

Is a discharge after the expulsion of the *placenta*, more or less, or of a longer or shorter continuance. It

decreases as the *uterus* contracts, but is seldom regular; some days more than others, and when the *uterus* has acquired a certain size, its vessels ooze only serum, called the *Green waters;* which, in their passage through the reduced cavity of the *uterus*, mixing with the decayed membranes remaining on its surface, gives the discharge that colour. They generally disappear between the eighth and fourteenth day, sooner or later, but a relapse may be produced by slight causes, till the *uterus* is contracted to its usual size. It continues longer with weak women, and those who do not suckle, than with strong, and those who do, and a similar irregularity in the discharge may sometimes be observed with such as are of an equal strength; yet, if they are free from morbid affection, have a moist skin, and regular pulse, will recover equally safe.

After-Pains.

Women are generally more or less troubled with after-pains. By patients after their first or protracted labor, where the *uterus* contracts gradually to the body of the fœtus, they are less felt than from subsequent or quick ones; in the two latter kinds the *uterus* may collapse or contract suddenly, but not uniformly; those pains come on soon after delivery, return at longer intervals, and less in degree, but similar to those of parturition.

The CAUSE is, First, the discharge of coagula from the uterine sinuses and capacious vessels; blood having been retained therein by the irregular or hasty contraction of the *uterus.* Second, the irritable state of the

internal surface of the womb, from the premature extraction of the *placenta*, the former exciting a succession of coagula, whereas if we had waited for the exclusion of the latter by the action of the *uterus*, its cavity would have been gradually diminished as the *placenta* descended. Third, the coagula passing through the *cervix* and *os uteri*.—Fourth, the permanent action of the fibres of the *uterus*, and—Fifth, the irritable state of the *os uteri*, increased by the number of labors or miscarriages. They are aggravated by flatulence, costiveness, and when the child is put to the breast; sometimes the pains are acute, yet prove salutary; therefore we should not suppress them, till the end is obtained for which they were excited; however, we may moderate them by warmth applied to the abdomen, and after the second day, by procuring motions. These pains are easily distinguished from such as are the effect of inflammation. In the latter, the pain is continual, and increased by pressure on the abdomen. The lochia is obstructed—The patient has rigours—Sickness—A quick pulse—Thirst—A hot skin—A dry tongue—And the secretion of milk is retarded.

Laceration of the Perinœum.

When patients are managed with propriety from the commencement of labor, an injury of the *perinœum* is so rare, that I never experienced it unless in a trifling degree, and where the difficulty has been very great, but from mismanagement or an inflamed *perinœum*, it may lacerate to the sphincter *ani*, which is of serious conse-

quence, yet, even the latter may heal by the first intention, if cleansed from the fœculent matter, and the thighs kept in contact, by means of bandage. When called to a patient casually in protracted labor, we should examine to ascertain the state of the parts, particularly that of the *perinæum*, should the latter be found inflamed, and the membranes ruptured, which I often have, they evidence premature interference by some other person, therefore an emolient enema should be ordered, likewise a fomentation of chamomile, at the same time explaining their intention to the friends of the patient; if delivery takes place whilst the *perinæum* is in that state, it having lost its dilatability, will be sure to lacerate; such attention will prevent reflection on our conduct. If the above remark acts as a proper stimulus or caution to midwives, they will in future avoid interposition with natural labors, and be induced to take early advice in such cases as ought to be placed under the conduct of an Accoucheur. Inflammation taking place on the *perinæum* during labor is attended with considerable danger to the patient, and great reflection on the practitioner.

Suckling.

After the patient is removed to bed, the child's mouth should be applied to the breasts, whether the secretion of milk has commenced or not, as irritation and warmth of the former, encourage the action of the lacteal glands of the latter. It is customary to feed the infants as soon as dressed, with fresh butter and

brown sugar mixed, but which is improper; as new-born children readily imbibe habits; they should be repeatedly encouraged to take the nipples, and used to sucking before any thing else be put into the mouth, whereby tumefaction, which often extend to the axilla, or inflammation and suppuration of the breasts are prevented, the milk taking its natural course. When the child sucks regularly, the mother should be treated as a wet nurse, by taking freely of white or brown caudle, from the time of delivery, and the second day chicken, rabbit, veal, or other light animal food, with such vegetables as are agreeable to the patient; the latter greatly increase the nutritious quality of the milk; though sometimes vegetable diet disturb the bowels if it has not been commenced from the time of taking animal food; spirits, spice, and all stimulants must be avoided; with such management, the use of aperients are seldom indicated before the third day. When pregnancy, or other cause do not prevent, nine kalendar months is the usual period for suckling.

FINIS.

ERRATA.

Page 18, line 22, for SEPARATION *read* CONNEXION

66, 4, above succeeding
121, 6, muscles knuckles

INDEX.

PRINTED by J. RAYER,
Harvey's Buildings, Strand, London.

Plate I.

Fig. I.

Fig. II

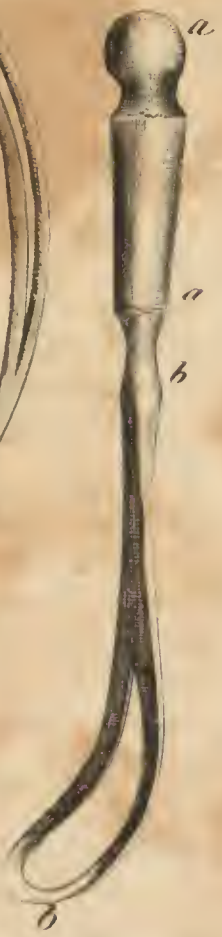

Plate II.

Fig. I.

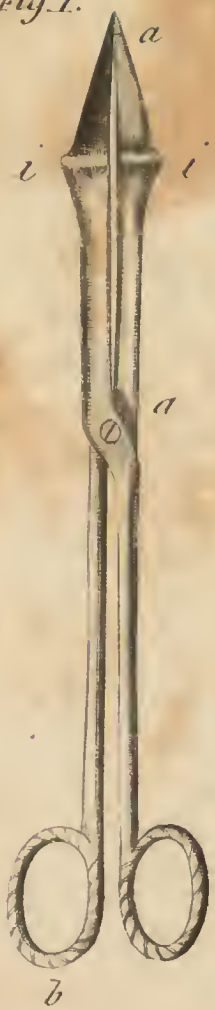

Fig. II.

MEDICAL BOOKS,

PUBLISHED BY

J. CALLOW, MEDICAL BOOKSELLER,

No. 10,

CROWN COURT, PRINCES STREET, SOHO;

Who either gives the full Value for Second-hand Medical Books, or exchanges them.

ANNUAL (the) MEDICAL REVIEW and REGISTER, for 1808; comprising a critical Account for every Publication relating to Medicine and Surgery, which appeared during that year; together with an Historical Sketch of the Discoveries and Improvements in these and the collateral Sciences, within the same period; a Report of the general State of Health and Disease in the Metropolis, &c. By a Society of Physicians. Handsomely printed in 8vo. vol. 1, boards, 7*s*, 1809

The same for the year 1809, vol. 2, 8vo. boards, 8*s*, 1810

ADAMS'S (Dr. Joseph) GUIDE to MADEIRA; containing a short Account of Funchall, with Instructions to such as repair to the Island for Health, 2d edition, price 1*s*. 6*d*.

ADAMS'S (Dr. Joseph) OBSERVATIONS on the CANCEROUS BREAST; consisting chiefly of original Correspondence between the Author and Dr. Baillie, Mr. Cline, Dr. Babington, Mr. Abernethy, and Dr. Stokes; published by permission of the Writers; with an Introductory Letter to Mr. Pitcairn 8vo. boards, 4s.

ADAMS'S (Dr. Joseph) OBSERVATIONS on MORBID POISONS, in Two Parts; Part I. containing Syphilis, Yaws, Sivvens; Elephantiasis, and the

Anomala confounded with them; Part II. on Acute Contagions, particularly the Variolous and Vaccine. Second edition, illustrated with four coloured engravings, copious practical Remarks, and further Commentaries on Mr. Hunter's Opinions, by Joseph Adams, M. D. F. L. S. Physician to the Small Pox and Inoculation Hospitals. In one large 4to. boards, 1*l.* 5*s.*

"Some judicious remarks on Variolous and Vaccine Inoculation terminate this work; which must be considered as far superior to the ephemeral productions of authors, who want to write themselves into a high road to riches and renown. This volume is valuable in another point of view, because it inculcates the habit of analysing diseases, and shews the importance of minute attention in tracing the history and progress of every series of morbid action."—Vide Edinburgh Journal, vol. iii.

ADAMS'S (Dr. Joseph) INQUIRY into the LAWS of EPIDEMICS, with Remarks on the Plans lately proposed for exterminating the Small Pox. By Joseph Adams, M. D. F. L. S. boards, 5*s.* 6*d.* 1810

ADAMS'S (Dr. Joseph) TREATISE on the supposed Hereditary Properties of Diseases, containing Remarks on the unfounded Terrors and ill-judged Cautions consequent on such erroneous Opinions, with Notes illustrative of the subject, particularly in Madness and Scrofula; 8vo. boards, 5*s* 6*d*

ADAMS'S (Dr. Joseph) ILLUSTRATION of Mr. HUNTER'S DOCTRINE, particularly concerning the Life of the Blood, in Answer to the Edinburgh Review of Mr. Abernethy's Lectures, 8vo. sewed, 1s 6d

AITKINS'S (Dr. John) ESSAYS on FRACTURES and LUXATIONS, 8vo. plates, boards, 4*s.* 1800

ANDREWS'S OBSERVATIONS on the Application of Lunar Caustic to Strictures in the Urethra and the Œsophagus; illustrated by Cases, and with

plates. By M. W. Andrews, M. D. Member of the Royal College of Surgeons, London, and now Physician at Madeira; 8vo. boards, price 5*s.* 6*d.*

Burns' (Allan) Observations on the Surgical Anatory of the Head and Neck, 8vo. 10 engravings, 12*s.* boards

Bell's (John) Discourses on the Nature and Cure of Wounds, 8vo. 3d edition, revised and corrected with plates, 12*s.* in boards

Barclay's (Dr. John) Description of the Arteries of the Human Body, with copious notes, 12mo. boards 7*s.*

In this description, the Ramifications, belonging to the Species, are carefully distinguished from those that characterize only Individuals; and where there are exceptions from the general rules, those are regularly explained in the Notes.

Barclay's Muscular Motions of the Human Body, 8vo. 10*s.* 6*d.* in boards

Boyer's Lectures on Diseases of the Bones, arranged into a systematic Treatise, by A. Richerand, Professor of Anatomy and Philosophy, and Surgeon to the Northern Hospital at Paris; translated from the French by M. Farrell, M. D. 2 vol. plates, boards, 10*s.* 1810

Bostock's Remarks on the Nomeclature of the New London Pharmacopœia, read before the Liverpool Medical Society; by John Bostock, M. D. 2*s.* 6*d.* 8vo. 1810.

Bree's Practical Inquiry into Disordered Respiration, distinguishing the Species of Convulsive Asthma, their Causes, and Indications of Cure: by Robert Bree, M. D. F. R. S. Fellow of the Royal College of Physicians;—the 5th edition, with additional Practical Observations; in 8vo. in the press

BUTTER'S (Dr. William) ACCOUNT of PUERPERAL FEVERS, as they appeared in Derbyshire and some of the Counties adjacent; illustrated by Cases, and successful Methods both of Prevention and Cure, 2*s.* 6*d.*

BUTTER on the INFANTILE REMITTENT FEVER, commonly called the Worm Fever; accurately describing that fatal Disease, explaining its Causes and Nature, and discovering an easy, safe, and successful Method of Cure, 2d edition, 1*s.* 6*d*

BUTTER'S (Dr. William) IMPROVED METHOD of OPENING the TEMPORAL ARTERY. Also, a new Operation for Extracting the Cataract. With Cases and Operations, illustrating the good Effects of Arteriotomy, Hemlock, and other Remedies, in various Diseases, 4*s.*

BUTTER'S (Dr. William) TREATISE on the ANGINA PECTORIS, 2*s.*

BUTTER'S (Wm.) TREATISE on the VENEREAL ROSE, commonly termed the Gonorrhœa Virulenta, containing a simple, safe, and certain method of Cure, without the use of Mercury; 2*s.* 6*d.*

BURNETT'S (Dr. William) PRACTICAL ACCOUNT of the FEVER, commonly called the Bilious Remittent, as it appeared in the Ships and Hospitals of the Miditerranean Fleet; with Cases and Dissections. To which are added, Facts and Observations illustrative of the Causes, Symptoms, and Treatment of Fever in the Mediterranean, comprehending the History of Fever in the Fleet, during the Years 1810, 1811, 1812, 1813, and of the Gibraltar and Carthagena Fevers, 8vo. bds. 10*s* 6*d*

BADHAM'S (Dr. Charles) ESSAY on BRONCHITIS, with a Supplement, containing Remarks on sim-

ple Pulmonary Abscess, &c. &c. 12mo. boards, 5s 6d

CLARK'S (John) OBSERVATIONS on the Diseases which prevail in long Voyages to Hot Countries, particularly to the East Indies; and on the same Diseases as they appear in Great Britian; 8vo. bds. 7*s.* 6*d.* 1809

CURSORY REMARKS on CORPULENCE. By a Member of the Royal College of Surgeons, 2d edition, with additions, 3s.

Think not, ye Candidates for Hea'th,
That ought can gain the w sh'd-for prize,
(Or pill or p..tion, power or wealth,)
But Temperance and Exercise.

CARMICHAEL'S (R.) ESSAY on the NATURE of SCROFULA, with Evidence of its Origin from Disorders of the Digestive Organs; illustrated by a number of Cases, successfully treated, and interspersed with Observations on the General Treatment of Children: 8vo. boards, 5*s.*

CUTHBERTSON'S PRACTICAL TREATISE on Electricity and Galvanism. By John Cuthbertson, Philosophical Instrument Maker, and Member of the Philosophical Societies of Holland and Utrecht; illustrated with nine copper-plates, boards, 10*s.* 6*d.*

CRICHTON'S (Dr. Alex.) SYNOPTICAL TABLE of DISEASES, exhibiting their arragement in Classes, Orders, Genera and Species, designed for the use of Students; on 2 sheets imperial folio, 2*s.* 6*d.*

CORNARO'S (L.) GUIDE to HEALTH and LONG LIFE. By Lewis Cornaro, a Noble Venetian, who, by attending to Rules herein described, repaired a debilitated Constitution, retained Health and Activity to extreme Old Age, and declares that to be the pleasant Season of Life: sewed, 1*s.* —fine paper, 2s

CROWTHER'S PRACTICAL OBSERVATIONS on the DISEASE of the JOINTS, commonly called White Swelling; with some Remarks on Caries, Necrosis, and Scrophulous Abscesses; in which a new and successful Method of teating these Diseases is pointed out. Second edition, with considerable additions and improvements, by Bryan Crowther, Member of the Royal College of Surgeons in London, and Surgeon to Bridewell and Bethlem Hospitals. Illustrated with seven coloured plates, 10*s.* 6*d.* boards.—Ditto, large paper, with proof impressions of the plates, 16*s.*

CABANIS'S (P. J. G.) SKETCH of the REVOLUTIONS of MEDICAL SCIENCE, and Views relating to its Reform; translated from the French, with Notes, by A. Henderson, M.D. 8vo. boards, 9s.

CURTIS'S (Charles) ACCOUNT of the DISEASES of INDIA, as they appeared in the English Fleet, and in the Naval Hospital at Madras, in 1782 and 1783; with Observations on Ulcers, and the Hospital Sores of that Country, &c. &c. To which is prefixed, a View of the Diseases on an Expedition and Passage of a Fleet and Armament to India in 1781, 8vo. boards, 7*s.*

A. CORN. CELSI de MEDICINA Libri Octo quibus accedunt, Indices Capitum Antorum et Rerum ex Recensio Leonardi Targæ. In 8vo. boards, 12s

COOPER'S PRACTICE of SURGERY.—The First Lines of the Practice of Surgery, being an Elementary Work for Students, and concise Book of Reference for Practitioners; with copper-plates. A new edition, corrected and enlarged, by Samuel Cooper, Member of the Royal College of Surgeons, and Fellow of the Medical Society in London, &c. 8vo. 15*s*

COOPER'S DICTIONARY of Practical Surgery: collected from the best and most original Sources of Information, and illustrated by critical Remarks; including Observations on the most important Remedies, Applications, Instruments, &c. a copious Pharmacopœia Chirurgica, and the Etymology and Meaning of the principal Terms. The whole forming a complete Compendium of Modern Surgical Knowledge, for the use of Students, private Practitioners, and Naval and Military Surgeons; by Samuel Cooper, Member of the Royal College of Surgeons in London, in one very neat and closely printed 8vo. vol. 2d edition. considerably enlarged, boards, 1*l* 1*s*

COOPER'S (Samuel) CRITICAL REFLECTIONS on several important Practical Points relative to the Cataract; 8vo. boards, 5*s*

COOPER'S (Samuel) TREATISE on the DISEASES of the JOINTS; being the Observations for which the Prize for 1806 was adjudged by the Royal College of Surgeons; 8vo. boards, 5*s*

COUPER'S SPECULATIONS on the Mode and Appearances of Impregnation in the HUMAN FEMALE; with an Account of the principal Ancient, and an Examination of the Modern Theories of Generation. 3d edition, with considerable additions, 4*s*

COPELAND'S (Thos.) OESERVATIONS on the Principal Diseases of the Rectum and Anus: particularly Stricture of the Rectum, the Hæmorrhoidal Excrescence, and Fistula in Ano: 2d edition, considerably enlarged, 8vo. boards, 7*s*

COPELAND'S (Thos.) OBSERATIONS on the Symptoms and Treatment of the Diseased Spine, more particularly relating to the Incipient Stages; with some Remarks on the consequent Palsy: 8vo. plates, boards, 6s

CASES of the EXCISION of CARIOUS JOINTS, by H. Park, Surgeon in the Liverpool Hospital; and P. F. Moreau, De Bar-sur-Ornain, M. D. de l'Ecole de Paris; with Observations by James Jeffray, M. D. Professor of Anatomy and Surgery in the College of Glasgow. Illustrated by engravings, 12mo. boards, 4*s* 6*d*.

DUFOUR'S (W.) TREATISE on DISEASES of the URETHRA, particularly describing the various Symptoms attending Strictures, Obstructions, Gleets, &c. and on the Prevention of Stone and Gravel; with a variety of Cases, tending to show the Efficacy of Daran's Medicated Bougies, and the new Method of treating a Gonorrhœa, &c. 7th edition, 3*s*

DAVIS'S (Dr. J. B.) Scientific and Popular VIEW of the FEVER of WALCHEREN, and its Consequences, as they appeared in the British Troops returned from the late Expedition—with an Account of the Morbid Anatomy of the Body, and the Efficacy of Drastic Purges and Mercury in the Treatment of this Disease, 8vo. boards, 7*s*

DAUBENTON'S OBSERVATIONS on INDIGESTION; in which is satisfactorily shewn the Efficacy of Ipecacuhana, in relieving this as well as its connected Train of complaints peculiar to the Decline of Life; translated from the French, 4th edition, with additional Notes and Observations, by Dr. Buchan, 12mo. boards, 2*s* 6*d*

DOMEIER'S (Wm.) OBSERVATIONS on the Climate, Manners, and Amusements of MALTA; principally intended for the information of Invalids repairing to that Island for Recovery of Health: by William Domeier, M. D. of the Royal College of Physicians, London; boards, 4*s* 6*d*, 1810

EARLE'S (Sir James) LETTER, containing some Observations on the Fractures of the Lower

Limbs; to which is added, an Account of a Contrivance to administer Cleanliness and Comfort to the Bed-ridden, or Persons confined to Bed by Age, Accident, Sickness, or any other Infirmity, with explanatory plates; sewed, 3*s*

EARLE'S (Sir James) OBSERVATIONS on Hæmorrhoidal Excrescences, 2d edit. sewed, 1*s* 6*d*

FORD'S OBSERVATIONS on the Disease of the HIP JOINT; to which is added, some Remarks on White Swellings of the Knee, the Caries of the Joint of the Wrist, and other similar Complaints. The whole illustrated by Cases and Engravings taken from the Diseased Part, by the late Edward Ford, Esq. F.S.A. the 2d edition, revised carefully, with some additional Observations by Thomas Copeland, Fellow of the College of Surgeons, and Assistant Surgeon to the Westminster General Dispensary. Illustrated with eight copper-plates, 8vo. boards, 12*s*, 1810

FOX'S (Dr. Joseph) NEW MEDICAL DICTIONARY, containing a concise Explanation of all the Terms used in Medicine, Surgery, Pharmacy, Botany, Natural History, and Chemistry; compiled by D. J. Fox; revised and augmented by Thomas Bradley; 12mo. boards, 7*s*

FARR'S (Dr. Sam.) ELEMENTS of MEDICAL JURISPRUDENCE, or a succinct and compendious Description of such Tokens in the Human Body as are requisite to determine the Judgment of a Coronor, and Courts of Law, in Cases of Divorce, Rape, Murder, &c. To which is added, Directions for preserving the Public Health;—3d edition, with additional notes by a Physician, 12mo. boards

FRASER'S (W. W.) ESSAY on the SHOULDER-JOINT OPERATION, particularly deduced from Anatomical Observation, 8vo. sewed, 2*s*

GRIFFITH'S (Dr. Moses) Practical OBSERVATIONS on the Cure of Hectic and Slow Fevers, and the Pulmonary Consumption; to which is added, a Method of Treating several Kinds of Internal Hæmorrhages; a new edition, sewed, 1*s* 6*d*

GIRDLESTONE (Dr. Thos.) on DIABETES, with an Historical Sketch of that Disease, sewed, 2*s* 6*d*, 8vo.

GORDON'S (Dr. Alex.) TREATISE on the Epidemic Puerperal Fever of Aberdeen, sewed, 2*s* 6*d*

GEOGHEGAN'S Commentary on the Treatment of RUPTURES, particularly in a State of Strangulation. By Edward Geoghegan, Member of the College of Surgeons, and Honorary Member of the Royal Medical Society, Edinburgh; 8vo. boards, 4*s*, 1810.—"This work will be found highly interesting, as it proposes important improvements in the treatment."

GEOGHEGAN'S (Edward) COMMENTARIES on the TREATMENT of the VENEREAL DISEASE, particularly in its exasperated state: including a second edition of a former publication on that subject, considerably augmented and improved; on the Use of Mercury, so as to insure its successful effect; with an Appendix, on Strictures of the Urethra, and on Morbid Retention of Urine; 8vo. boards, 6s 6d

GOURLAY'S OBSERVATIONS on the Natural History, Climate, and Diseases of MADEIRA, during a Period of Eighteen Years; by William Gourlay, M.D. Fellow of the Royal College of Physicians, Edinburgh; and Physician to the British Factory at Madeira, 8vo. boards, 6*s*, 1810

GRAVES'S CONSPECTUS of the London, Edinburgh, and Dublin Pharmacopœas; wherein the Virtues, Uses and Doses of the several Articles contained

in those Works are concisely stated; their Pronunciation, as to Quantity, is correctly marked; and a variety of other Particulars respecting them given; calculated more especially for the use of Junior Practitioners: by Robert Graves, M.D. 18mo. 4*s* 6*d*

GALL (Dr.) Some Account of his new THEORY of PHYSIOGNOMY, founded upon the Anatomy and Physiology of the Brain, and the form of the Skull; with the Critical Strictures of C. W. Hufeland: 8vo. boards, 6*s*

GILLMAN'S (James) DISSERTATION on the BITE of a RABID ANIMAL; being the Substance of an Essay which received a Prize from the Royal College of Surgeons in London, in the Year 1811; 8vo. boards, 7*s*

HARTY'S (Dr.) OBSERVATIONS on the SIMPLE DYSENTERY, and its Combinations; containing a Review of the most celebrated Authors who have written on this subject, and also an Investigation into the source of Contagion in that and some other Diseases: boards, 7*s* 6*d*, 8vo.

"This Work we find no difficulty in recommending to our Readers: it contains unquestionably a larger mass of evidence than is any where else to be found, of the various species of this formidable Disease; and again we think it right once more to recommend the Work before us, as the most valuable digest of all that has been written upon it."—Vide Medical and Physical Journal, for December, 1805.

"We have derived much gratification from the perusal of this volume, since, without going the complete length of all his speculations, we think that the Author has manifested a considerable share of ability in their support; he merits the praise of sagacity, for the selection and arrangement of his materials; of great industry in the collection of them; and of having manifested a becoming modesty in the enunciation of his own conjectures."—Vide Monthly Review, for June, 1806.

HUNTER'S (John) TREATISE on the VENEREAL DISEASE, with an Introduction and Commentary, by Dr. Joseph Adams: boards, 14s, 8vo.

HUNTER'S (John) TREATISE on the Blood, Inflammation, and Gun Shot Wounds, 2 vol. 8vo. 1*l* 5s

HUNTER (Dr. William) on the Uncertainty of the Signs of MURDER in the Case of Bastard Children; 8vo. 1*s*. 6*d*.

HIGGINS'S (William) ESSAY on the Theory and Practice of BLEACHING, wherein the Sulphuret of Lime is recommended as a Substitute for Potash; sewed, 2*s*

HINTS for the Recovery and Preservation of HEALTH; 2d edition, with additions, sewed 2*s* 6*d*

"Fat paunches have lean pates, and dainty bits
"Make rich the ribs, but banker out the wits."
SHAKESPEARE.

HASLAM'S (John) OBSERVATIONS on MADNESS and MELANCHOLY, including Practical Remarks on those Diseases; together with Cases, and Account of Morbid Appearances on Dissection; by John Haslam, late of Pembroke Hall, Cambridge; Member of the Royal College of Surgeons, and Apothecary to Bethlem Hospital: 2d edition, considerably enlarged, in one vol. 8vo. boards, 9s

HASLAM'S (John) ILLUSTRATIONS on MADNESS; exhibiting a singular case of Insanity, and a no less remarkable difference in Medical Opinion; developing the Nature of Assailment, and the Manner of Working Events; with a Description of the Tortures eperienced by Bomb-bursting, Lobster-cracking, and Lengthening the Brain; illustrated with a curious plate, 8vo. boards, 5*s* 6*d*

HOWARD'S (John) PRACTICAL OBSERVATIONS on the Natural History and Cure of the Venereal Disease; 2d edition, in 2 vol. 8vo. plates, boards, 14*s*

HAMILTON'S OBSERVATIONS on Scrofulous Affections, with Remarks on Scirrhous Cancer, and Rachitis; boards, 12mo. 3*s*.

HOOPER'S PHYSICIAN'S VADE MECUM: containing the Symptoms, Causes, Diagnosis, Prognosis and Treatment of Diseases; accompanied by a select Collection of Formulæ, and a Glossary of Terms. By Robert Hooper, M. D. a new edition, 12mo. 7*s*.

HOOPER'S ANATOMIST'S VADE MECUM: containing the Anatomy, Physiology, Morbid Appearances, &c. of the Human Body; the Art of making Anatomical Preparations, &c. To which are now added, Anatomical, Physiological, Medical, and Surgical Examinations, which will be found highly useful to the Student who has to pass at the College of Surgeons, or at any of the Medical Boards. By Robert Hooper, M.D. &c. The 8th edition, corrected, and in other respects very materially improved, in one closely printed volume, 12mo. bds. 9*s*.

HOOPER'S (Dr. Robert) QUINCY'S LEXICON MEDICUM. A new Medical Dictionary; containing an explanation of the Terms in Anatomy, Physiology, Practice of Physic, Materia Medica, Chemistry, Pharmacy, Surgery, Midwifery, and the various Branches of Natural Philosophy connected with Medicine. Selected, arranged, and compiled from the best authors, 8vo. boards, 18*s*.

HOOPER'S (Dr. Robert) EXAMINATIONS in Anatomy, Physiology, Practice of Physic, Surgery, Materia Medica, Chemistry, and Pharmacy; for the Use of Students. 3d edition, greatly enlarged and improved, 12mo. boards, 5*s* 6*d*

HOOPER'S (Dr. Robert) SURGEONS' VADE MECUM; containing the Symptoms, Causes, Diagnosis, Prognosis, and Treatment of Surgical Diseases

accompanied by engravings to illustrate the modern and improved Methods of operating. Also, Select Formulæ of Prescriptions, and a Glossary of Terms. The 2d edition, greatly enlarged and improved, 12mo. bds. 8*s*

HOOPER'S (Dr. Robert) ANATOMICAL PLATES of the Bones and Muscles, diminished from Albinus, for the Use of Students in Anatomy, and Artists; accompanied by explanatory Maps. A new edition, 12mo. sewed, 7*s*

HOOPER'S (Dr. Robert) ANATOMICAL PLATES of the Thoracic and Adominal Viscera, for the Use of Students in Anatomy and Artists; accompanied by explanatory maps. A new edit. 12mo. sewed, 5*s*

HUTCHISON'S (Dr. A. C.) LETTER, respectfully addressed to the Commissioners for Transports, Sick and Wounded Seamen, &c. &c. on the subject of the Operation for POPLITEAL ANEURISM; illustrated by Cases, and a Description of a new Instrument; 8vo. sewed, 1*s*. 6*d*. 1811

"The value of a book is not always to be estimated by its extent. This small pamphlet clearly states practical facts of great importance, and the result of the method of operating for Popliteal Aneurism, employed by Dr. Hutchison, who was so compleatly successful in the Cases related, that we cannot recommend it too forcibly to the consideration of our Chirurgical readers."—Vide Medical and Physical Journal, for September, 1811.

HOPKINS'S (Joseph) ACCOUCHEUR'S VADE MECUM, being the substance of a series of Lectures, delivered at the Westminster Lying-in Institution, Queen's Square: second edition, revised and corrected by the Author, with considerable additions and improvements, 12mo. boards, 7*s*

IDENTITIES ASCERTAINED; or, an Illustration of Mr. Ware's Opinion respecting the sameness of Infection in Venereal Gonorrhœa, and Opthalmia in Egypt; with an Examination of Affinity between Ancient Leprosy and Lues; 2*s*. 6*d*. 8vo.

Johnson's Practical Essay on Cancer; being the substance of Observations, to which the Annual Prize for 1808, was adjudged by the Royal College of Surgeons, London. By Christopher Turner Johnson, Surgeon, of Exeter, Member of the Royal College of Surgeons, London, and of the Royal Medical Society of Edinburgh: 8vo. boards, 5*s.* 6*d.* 1810

Johnson's (James) Influence on the Tropical Climates, more especially the Climate of India, on European Constitutions, 8vo. boards, 14*s.*

"I highly approve of almost every line in Mr. Johnson's work, which I recommend to all Medical Gentlemen going to India, as by far the best, and indeed the only good book written on the subject." "William Dick," principal physician to the East India Company. Vide Dr. Dick's letter to the Editors of the New Med. and Phys. Journal, June, 1814.

Keate's (Thomas) Cases of the Hydrocele and Hernia Incarcerata; sewed, 1*s* 6*d*

Lind on Diseases, incidental to Europeans in Hot Climates, with the Method of preventing their fatal Consequences; the 6th edition, in one vol. 8vo. price 8*s.* boards, 1808

Lawrence's (William) Treatise on Ruptures, containing an Anatomical Description of each Species; with an Account of its Symptoms, Progress, and Treatment: illustrated with plates. By William Lawrence, Member of the Royal College of Surgeons, and Demonstrator of Anatomy at St. Bartholomew's Hospital; in large 8vo. boards, 10*s.* 6*d.* 1810

Lipscomb's Manual of Inoculation, for the Use of the Faculty and Private Families; pointing out the most approved Method of Inoculating and conducting Patients through the Small Pox; sewed, 1*s.*

London Dissector; or, System of Dissections practised in the Hospitals and Lecture Rooms of the Metropolis; explained by the clearest Rules,

for the use of Students. Comprising a Description of the Muscles, Vessels, Nerves, and Viscera of the Human Body, as they appear on Dissection, with Directions for their Demonstration, 4th edition, 12mo. 5*s*.

LONDON PRACTICE of MIDWIFERY, or, a Manual for Students; being a complete Course of Practical Midwifery, in which are included, the Treatment of Lying in Women, and the Diseases of Children: 3d edition, corrected, 12mo. Boards, 6*s*.

LUXMORE'S FAMILIAR OBSERVATIONS on RUPTURES, for the use of Patients of both Sexes, afflicted with those Complaints; 2d edition, price 2*s*.

LONDON (the) MEDICAL DICTIONARY; including under distinct heads, every branch of Medicine, viz. Anatomy, Physiology, and Pathology, the Practise of Physic and Surgery, Therapeutics, and Materia Medica; with whatever relates to Medicine in Natural Philosophy, Chemistry, and Natural History. By Bartholomew Parr, M. D. The whole illustrated with fifty-seven highly finished engravings, 3 vol. 4to. boards, £6.

MEDICAL OBSERVATIONS and INQUIRIES; by a Society of Physicians in London. Vol. 6, 12s, boards.

MEDICAL FACTS and OBSERVATIONS, consisting principally of Original Communications from Gentlemen of the Faculty, on important subjects in Medicine and Surgery, &c. By Dr. Simmons. Vol. 8, boards, 5*s*. 8vo.

MURPHY'S History of the HUMAN TEETH; with a Treatise on their Disease from Infancy to Old Age, adapted for general information. To which are added, Observations on the Physiognomy of the Teeth and Projecting Chin. Illustrated with

two engravings. By Joseph Murphy, Surgeon Dentist: boards, 6*s*. 8vo.

MATHIAS (Andrew) on the MERCURIAL DISEASE. An Inquiry into the History and Nature of the Disease produced in the Human Constitution by the Use of Mercury; with Observations on its Connexion with Lues Venerea. By Andrew Mathias, Surgeon extraordinary to the Queen, and to Her Majesty's Household, Surgeon to the Westminster Lying-in Hospital, and Member of the Royal College of Surgeons of London; 8vo. boards, 7*s*, 1811

"In concluding our Remarks on this Volume, we must express the great pleasure and improvement which we have derived from the perusal of it; and we have no hesitation in saying, that it must produce an important change in Practice, and must tend to the Cure of the most unfortunate states of Disease to which the Human Body is subject."—Monthly Review for February 1811, page 197.

MEMIS'S (John) MIDWIFE'S POCKET COMPANION; a Practical Treatise on Midwifery, on a new Plan, sewed 1*s* 6*d*, 12mo.

MERRIMAN'S (Dr. Samuel) Dissertation on Retrovertion of the WOMB; including some Observations on Extra-uterine Gestation; 8vo. sewed, 3*s*

MERRIMAN'S (Dr. Samuel) SYNOPSIS of the various kinds of Difficult Parturition; with Practical Remarks on the Management of Labours; 2d edition, with considerable additions, 12mo. boards, 6*s*

NOTT'S (Dr. John) POSOLOGIC COMPANION to the London Pharmacopœia; the third edition, adapted to the last reform of the College; 18mo. sewed, 3*s*

NISBET'S Practical TREATISE on DIET, and on the most salutary and agreeable means of supporting Life and Health by Aliment and Regimen, adapted to the various circumstances of Age, Constitution and Climate; 12mo. boards, 6*s*

NISBET'S INQUIRY into the History, Nature, Causes, and different Modes of Treatment hitherto pursued in the Cure of Scrofula, Pulmonary Consumption, and Cancer; the 2d edition; to which is added, an Appendix, containing a letter to a celebrated Professor of Edinburgh; 8vo. boards, 5*s*

OBSERVATIONS on the ANIMAL ŒCONOMY. By a Physician. 8vo. boards, 6*s*. 1815

O'DONNEL'S (Dr. J.) CASES of HYDROPHOBIA, including Dr. Schoolbred's and Mr. Tymon's successful Cases; with some Observations on the Nature and Seat of the Disease: 8vo. sewed, 2s

PARIS'S (Dr. J. A.) PHARMACOLOGIA, or the History of Medical Substances, in order to enable the Practitioner to prescribe them with Efficacy and Elegance, and to dispense them with Accuracy: to which is added, an Analysis of the most celebrated Quack Medicines. 12mo. boards, 6*s*

POLE'S (T.) ANATOMICAL INSTRUCTOR; or, an Illustration of the Modern and most approved Method of Preparing and Preserving the different Parts of the Human Body, and of Quadrupeds, by Injection, Corrosion, Maceration, Distention, Articulation, Modelling, &c. with a variety of copper-plates; a new edition, with additional Notes, 12mo. boards, 7*s*

PEARSON'S (John) Practical Observations on CANCEROUS COMPLAINTS, with an Account of some Diseases which have been confounded with the Cancer; also Critical Remarks on some of the Operations performed in Cancerous Cases; sewed 2*s* 6*d*, 8vo.

PEARSON'S PRINCIPLES of SURGERY, for the Use of Chirurgical Students; a new edition with additions. By John Pearson, F. R. S. Senior

Surgeon to the Lock Hospital and Asylum, Surgeon to the Public Dispensary, and Reader on the Principles and Practice of Surgery, in one vol. 8vo. boards, 8*s* 6*d*

PEARSON'S OBSERVATIONS on the effects of various articles of Materia Medica, in the Cure of Lues Venerea, illustrated with Cases. By John Pearson, F.A.S. Senior Surgeon to the Lock Hospital and Asylum, and Senior Surgeon to the Public Dispensary, Reader on the Principles and Practice of Surgery, 2d edition, with additions, 7*s*, 8vo.

POTT'S CHIRURGICAL WORKS, 3 vol. 8vo. new, boards, 12*s*, 1783—N.B. This is the last edition published by the Author

POTT'S CHIRURGICAL WORKS; a new edition with his last Corrections; to which are added, a short Account of the Life of the Author, a Method of curing the Hydrocele by Injection, and occasional Notes and Observations, by Sir James Earle, F.R.S. Surgeon Extraordinary to the King, &c. 3 vol. boards, 1*l* 7*s*, 1808

PAUL on ARTIFICIAL MINERAL WATERS, sewed, 2*s*

PERFECT'S (Dr. William) ANNALS OF INSANITY, comprising a Selection of curious and interesting Cases in the different Species of Lunacy, Melancholy, or Madness, with the Modes of Cure, 8vo. boards, 8*s*.

ROYSTON'S (W) OBSERVATIONS on the Rise and Progress of the MEDICAL ART in the British Empire; containing Remarks on Medical Literature, with a View of a Bibliographia Medicinæ Britannicæ. 2*s*

RICHERAND'S PHYSIOLOGY.—Elements of Physiology, by A. Richerand, Professor of the Faculty of Medicine, Paris, &c. &c. The 5th edition, revised, corrected, and enlarged: translated from

the French by G. J. M. De Lys, M.D. Member of the Royal College of Surgeons in London, 8vo. 12*s*

Rees' (Dr. George) Treatise on Diseases of the Uterus; in which are included Remarks on Moles, Polypi, and Prolapsus, as also on Scirrhous and Cancerous Affections of that Organ; bds. 4*s* 6*d*, 8vo.

Rees (Dr. George) Treatise on the Primary Symptoms of the Lues Venera, with a concise, critical, and chronological Account of all the English Writers on this Subject, from 1735 to 1783; to which is added, an Analysis of a Course of Lectures delivered by the Author: boards, 5*s*, 8vo.

Rollo's Cases of the Diabetes Mellitus, with the Results of the Trials of certain Acids and other Substances in the Cure of the Lues Venerea: 2d edition, with large additions, boards, 6*s*, 8vo.

Richter's (A. G.) Medical and Surgical Observations, 8vo. boards, 5*s*

Ryding's Veterinary Pathology; or a Treatise on the Cure and Progress of the Disease of the Horse, &c. &c. and an Appendix, or Veterinary Dispensatory, &c. boards. 4*s*, 8vo.

Ring's (John) Treatise on the Gout; containing the Opinions of the most celebrated ancient and modern Physicians on that Disease, and Observations on the Ean Medicinale; 8vo. boards, 6*s*.

Russell's (Dr. P.) Treatise on the Plague; containing an Historical Journal and Medical Account of the Plague at Aleppo, in the Year 1760, 1761, and 1762: also, Remarks on the Quarantines, Lazarettos, and the Administration of Police in Times of Pestilence; to which is added an Appendix, containing Cases of the

Plague, and an Account of the Weather during the Pestilential Season; 4to. boards, 15*s*

SMITH'S (S. S.) ESSAY on the Causes of the Variety of Complexion and Figure in the Human Species; to which are added, Strictures on Lord Kames's Discourse of the Original Diversity of Mankind; a new edition, with additional notes, boards, 4*s*

SYNOPSIS PHARMACOPŒIÆ LONDINENSIS ALPHABETICA; omnia ejus Præparata complectens, secundum eorum vires medicas vel chemicas. ostendens eorum Doses; Nomina priora, Rationem quâ Antimonium, Arsenicum, Cathartica, Emetica, Hydrargyrus, et Opium, in quibusdam compositis continentur: quantitatum medicaminum vegetabilium in Decoctis, Infusis, et Tincturis; item quantum Salium singulorum liquatur in aquâ ad ejus saturationem. By Dr. Haygarth; sewed 1*s* 6*d*

SKELLET'S (E.) Practical TREATISE on the Parturition of the Cow, or the Extraction of the Calf: and also on the Diseases of Neat Cattle in general, with their most approved Methods of Treatment, and the best forms of Prescriptions adapted to Veterinary Practice; to which is added, an Account of the Diseases of the Bullock, Bull, and Calf. Illustrated with engravings, 4to. half-bound, 2*l* 2*s*

THOMAS'S MODERN PRACTICE of PHYSIC; exhibiting the Characters, Causes, Symptoms, Prognostic, Morbid Appearances, and improved Method of treating Diseases. By Robert Thomas, M. D. 4th edition, considerably enlarged, in one neat and very closely printed volume, 8vo. 16*s*

This Work has been carefully revised, and a large portion of new and important matter has been added.

TUOMY'S TREATISE on the Principal DISEASES of DUBLIN. By Martin Tuomy, M. D. T. C. D. in 8vo. boards, 10*s* 6*d*. 1810

TRYE'S ESSAY on some of the Stages of the Operation of Cutting for the Stone: illustrated with an engraving. By C. B. Tyre, F.R.S. 8vo. sewed, 2*s*

UNDERWOOD'S (Dr. M.) TREATISE on DISORDERS of CHILDHOOD, and Management of Children from the Birth, adapted to Domestic Use; 3d dition, with considerable additions, 3 vol. boards. 12mo. 16s 6d

UNDERWOOD'S (Dr. M.) TREATISE on the DISEASES of CHILDREN, with Directions for the Management of Infants from the Birth, and now precisely adapted to Professional Readers; 6th edit. revised and enlarged, 3 vol. boards, 15*s*, 8vo.

UNDERWOOD'S (Dr. Michael) SURGICAL TRACTS; containing a Treatise upon Ulcers of the Legs, in which former Modes of Treatment are candidly examined and compared with one more rational and safe, effected without Rest or Confinement; together with Hints on a successful Method of Treating some Scrophulous Tumours; the Mammary Abscess, and sore Nipples of Lying-in Women; Observations on the more common Disorders of the Eye, and on Gangrene. The third edition, revised and defended, 8vo. boards, 6*s*

VINDICATION of NATURAL DIET, 12mo. sewed, 1s 6d

WADD'S (Wm.) OBSERVATIONS on the best Mode of curing Strictures in the Urethra; with Remarks on the frequent Inefficacy and ill Effects of Caustic Applications; 2d edit. enlarged, boards, 4*s*, 1811

WHATELY'S Description and Treatment of an AFFECTION of the TIBIA, induced by Fever; illustrated by a coloured engraving. By Thomas Whately, Member of the Royal College of Surgeons, London; 2*s* 6*d*

WHATELY'S CASES of two extraordinary POLYPI removed from the Nose; the one by excision with a new Instrument, the other by improved Forceps. With an Appendix, describing an improved Instrument for the Fistula in Ano, with Observations on that Disease. Illustrated with a copper-plate, sewed, 2*s*, 8vo.

WEBSTER'S (Dr. Charles) FACTS; tending to shew the Connexion of the Stomach with Life, Disease, and Recovery; sewed, 1*s* 6*d*

WITHERING'S (Wm.) OUTLINES of MINERALOGY; 8vo. sewed, 2*s* 6*d*

WITHERING'S (Dr. W.) Account of the SCARLET FEVER and SORE THROAT, or Scarlatina Anginosa, particularly as it appeared at Birmingham in the Year 1773: the 2d edition. To which are now prefixed, some Remarks on the Nature and Cure of the Ulcerated Sore Throat, 8vo. sewed, 2*s* 6*d*

WILSON'S (Alexander) ESSAY on the Nature of Fever, 8vo. boards, 5*s*

WRIGHT'S HISTORY of the WALCHEREN REMITTENT; commencing with its advanced state, when most dangerous and destructive to the Soldiery, and concluding with its very favourable termination; effected by those means first proposed by the Author only to the Legislature, and to the late and present Army Medical Board; with the Morbid Appearances on Dissection; also the Sequels, Anæmia, Acholia, Egyptian Opthalmia, &c. &c. elucidated by Dissections. By Thomas Wright, M.D. and M.R.I.A. &c. &c. price 10*s* 6*d*, boards

YATMAN'S FAMILIAR ANALISIS of the Fluid capable of producing the Phenomena of Electricity of Galvanism or Combustion; with some

Remarks on Simple Galvanic Girdles, and their Influence upon the Vital Principle of Animals; illustrated by Theories and Experiments of Alderni, Garnett, Davy, Young, Thomson, &c. &c. by Mathew Yatman, Esq. price 2*s* 6*d*

YATMAN'S (Matt.) LETTER to the Physicians and Surgeons of St. George's Hospital, on Mr. Davy's Simple Galvanic Girdles, considered as a Topical Assistant Branch of Medicine in the Correction of disordered Living Action; founded upon the Theories of Dr. Garnet and Mr. Davy, and confirmed by Practical Experience; 8vo. price 6*d*, 1811

YEATS' (Dr. G. D.) STATEMENT of the early Symptoms which lead to the Disease termed Water in the Brain; with Observations on the Necessity of a watchful Attention to them, and on the fatal Consequences of their Neglect; in a Letter to Martin Wall, M.D. Clinical Professor at Oxford, &c. &c. 8vo. boards, 5*s*

CALLOW'S MEDICAL SUBSCRIPTION LIBRARY.

CONDITIONS.

An Annual Subscriber to pay	£2	2	0
Half a Year	1	5	0
Quarter of a Year	0	15	0
One Month	0	7	0

Annual Subscribers in Town or Country, paying Three Guineas per Annum, allowed an extra number of Books.

Two Octavos allowed at one Time; one Folio or Quarto is reckoned equal to two Octavos.

Smith and Davy, Printers, Queen Street, Seven Dials